APPENDIX C

WATERBODY FACT SHEETS
Supporting New 303(d) Listing and Delisting Recommendations

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Proposed 2008 303(d) listings

Water Body	Pollutant(s)
Alameda Creek	Trash
Almaden Lake	Mercury (tissue)
Almaden Reservoir	Mercury (tissue)
Arroyo Las Positas	**Nutrient/Eutrophication Biological Indicators** [Benthic-Macroinvertebrate Bioassessments Dissolved Oxygen Saturation | Low Dissolved Oxygen | Nitrate]
Arroyo Mocho	Temperature
Baxter Creek (Contra Costa County)	Trash
Cerrito Creek	Trash
Colma Creek	Trash
Codornices Creek	Temperature | Trash
Coyote Creek (Santa Clara Co.)	Trash
Damon Slough	Trash
Grayson Creek	Trash
Guadalupe River	Trash
Kirker Creek	Pyrethroids | Trash
Matadero Creek	Trash
Mt. Diablo Creek	Toxicity
Permanente Creek	Selenium | Toxicity | Trash

Petaluma River	Trash
Rindler Creek	Trash
San Francisco Bay, Central (shoreline)	Trash
San Francisco Bay, Lower (shoreline)	Trash
San Francisquito Creek	Trash
San Leandro Creek, Lower	Chromium | Trash
San Mateo Creek	Sediment Toxicity | Trash
San Pablo Creek	Trash
San Tomas Aquinas Creek	Trash
Saratoga Creek	Trash
Sausal Creek	Trash
Silver Creek (Santa Clara County)	Trash
Stevens Creek	Temperature | Trash
Strawberry Creek (Alameda County)	Trash
Suisun Creek	Low Dissolved Oxygen | Temperature

Alameda Creek — Trash

Decision ID: 7612

Pollutant: Trash
Status: Decision in Progress
Weight of Evidence: This pollutant is being considered for placement on the section 303(d) list under section 3.11 of the Listing Policy. Under section 3.11, listing may be proposed based on the situation-specific weight of evidence.

Two lines of evidence are available in the administrative record to assess this pollutant. Both lines of evidence consist of inspection of photographic evidence by Regional Water Board staff trained to conduct the Rapid Trash Assessment (RTA) methodology. One line of evidence concerns the non-contact recreation beneficial use, and the other line of evidence concerns the wildlife beneficial use. The staff inspected these photos and applied the RTA methodology to develop Category 1 (Level of Trash) and Category 3 (Threat to Aquatic Life) scores for each photograph.

Based on the readily available photographic evidence for this waterbody, the weight of evidence indicates that there is sufficient justification available in favor of placing this water segment-pollutant combination to the section 303(d) list in the Water Quality Limited Segments category.

This conclusion is based on the staff findings that:

1. Photographic evidence has been evaluated that supports this decision.

2. Applying the Rapid Trash Assessment methodology to the photographic evidence suggests that this waterbody had "level of trash" parameter scores in the poor category (indicating impairment of non-contact water recreational beneficial uses) at two locations on a single date. This waterbody also had "threat to aquatic life" parameter scores in the poor category (indicating threat to Wildlife Habitat beneficial uses) at two different locations on a single date.

3. This waterbody is considered impaired by trash because there were exceedances of the evaluation guideline (poor condition category for the trash assessment metrics) in more than one location or on more than one date.

4. The data used satisfy the data quality requirements of section 6.1.4 of the Policy.

5. The data used satisfy the data quantity requirements of section 6.1 of the Policy.

Lines of Evidence:

LOE ID: 5339
Pollutant: Trash
Subgroup: Pollutant-Nuisance
Beneficial Use: Non-Contact Recreation

Matrix:	Not Specified
Fraction:	None
Number of Exceedances:	2
Number of Samples:	2
Data Used to Assess Water Quality:	Data available consist of photographic evidence of trash and interpretation of these photos by an experienced trash assessment specialist. Each photograph was analyzed to establish the RTA score for the level of trash and threat to aquatic life parameters, which relate to impairment of REC2 and WILD, respectively. Only those photos clear enough to establish these RTA scores were relied on for the listing determination. Valid results are available for Alameda Creek: Hesperian Blvd. on 1/11/2006, and Ahern Ave. on 1/11/2006. There were exceedances of the evaluation guideline (poor condition category for the trash assessment metric) in more than one location or on more than one date.
Data Reference(s):	Report from Roger James and Larry Kolb containing Trash Photos submitted for consideration in 2008 303(d) listing process Archive of Trash Photos for Alameda Creek submitted for 2008 303(d) list consideration Assessment by Matt Cover of Trash Photos (submitted to Region 2 in response to 2008 Data Solicitation)
Water Quality Objective/Criterion:	Basin Plan prohibits discharge of "Rubbish, refuse, bark, sawdust, or other solid wastes into surface waters or at any place where they would contact or where they would be eventually transported to surface waters, including flood plain areas." Basin Plan has a narrative objective for floating material, "Waters shall not contain floating material, including solids, liquids, foams, and scum, in concentrations that cause nuisance or adversely affect beneficial uses." Basin Plan has a narrative objective for settleable material, "Waters shall not contain substances in concentrations that result in the deposition of material that cause nuisance or adversely affect beneficial uses."
Water Quality Objective/Criterion Reference(s):	San Francisco Bay Basin (Region 2) Water Quality Control Plan (Basin Plan)
Evaluation Guideline:	If the Rapid Trash Assessment (RTA) Parameter 1 (Level of Trash) is in the "poor condition category" (scores 0-5), REC2 is not supported. This level of trash "distracts the eye on first glance," making the site unsuitable for recreation. The RTA defines poor condition for this parameter as follows, "trash distracts the eye on first glance. Stream, bank surfaces, and immediate riparian zone contain substantial levels of litter and debris (>100 pieces). Evidence of site being used frequently by people: many cans, bottles, and food wrappers, blankets, clothing." Regional Water Board staff trained in the RTA inspected the available photographic evidence and applied the assessment method to determine the Level of Trash score. If the RTA Parameter 3 (Threat to Aquatic Life) is in the poor condition category (scores 0-5), then WILD is not supported. This level of trash is a "large amount (>50 pieces) of transportable, persistent, buoyant litter" that is detrimental to aquatic life. The RTA defines poor condition for this parameter as follows, "large amount (>50 pieces) of transportable, persistent, buoyant litter such as: hard or soft plastics, balloons, Styrofoam, cigarette butts; toxic items such as batteries, lighters, or spray cans; large clumps of yard waste or dumped leaf litter; or large amount (>50 pieces) of settleable glass or metal." Regional Water Board staff trained in the RTA inspected the available photographic evidence and applied the

	assessment method to determine the Threat to Aquatic Life score.
Evaluation Guideline Reference(s):	A Rapid Trash Assessment Method Applied to Waters of the San Francisco Bay Region:Trash Measurement in Streams
Spatial Representation:	Photographic evidence was analyzed using the RTA methodology for this waterbody for two different locations in 2006. Both locations scored in the "poor condition" category for the "Level of Trash" parameter.
Temporal Representation:	Photographic evidence was collected for this waterbody in 2006.
Environmental Conditions:	
QAPP Information:	Assessments of the photographic evidence using the RTA were performed by Regional Water Board staff person who was a co-author of the Rapid Trash Assessment methodology. Assessments based on photographic evidence were only conducted when sufficient reach-scale and close-up photos were available for a site on a specific date. Photos used for the evaluation needed to be numerous enough and clear enough to document the level of trash at the site in a similar way as the assessor would experience during an actual site visit in the field. For example, at a minimum, one reach-scale photograph (showing at least a 100 linear foot section of the waterbody) and two close-up photographs (of representative trash deposits) were required.

LOE ID:	5346
Pollutant:	Trash
Subgroup:	Pollutant-Nuisance
Beneficial Use:	Wildlife Habitat
Matrix:	Not Specified
Fraction:	None
Number of Exceedances:	2
Number of Samples:	2
Data Used to Assess Water Quality:	Data available consist of photographic evidence of trash and interpretation of these photos by an experienced trash assessment specialist. Each photograph was analyzed to establish the RTA score for the level of trash and threat to aquatic life parameters, which relate to impairment of REC2 and WILD, respectively. Only those photos clear enough to establish these RTA scores were relied on for the listing determination. These results are available for the following dates and locations on Alameda Creek: Hesperian Blvd. on 1/11/2006 and Ahern Ave. on 1/11/2006. There were exceedances of the evaluation guideline (poor condition category for the trash assessment metric) in more than one location or on more than one date.
Data Reference(s):	Report from Roger James and Larry Kolb containing Trash Photos submitted for consideration in 2008 303(d) listing process Archive of Trash Photos for Alameda Creek submitted for 2008 303(d) list consideration Assessment by Matt Cover of Trash Photos (submitted to Region 2 in response to 2008 Data Solicitation)
Water Quality Objective/Criterion:	Basin Plan prohibits discharge of "Rubbish, refuse, bark, sawdust, or other solid wastes into surface waters or at any place where they would contact or where they would be eventually transported to surface waters, including flood plain areas." Basin Plan has a narrative objective for floating material, "Waters shall not contain floating material, including solids, liquids, foams, and scum, in

	concentrations that cause nuisance or adversely affect beneficial uses." Basin Plan has a narrative objective for settleable material, "Waters shall not contain substances in concentrations that result in the deposition of material that cause nuisance or adversely affect beneficial uses."
Water Quality Objective/Criterion Reference(s):	San Francisco Bay Basin (Region 2) Water Quality Control Plan (Basin Plan)
Evaluation Guideline:	If the Rapid Trash Assessment (RTA) Parameter 1 (Level of Trash) is in the "poor condition category" (scores 0-5), REC2 is not supported. This level of trash "distracts the eye on first glance," making the site unsuitable for recreation. The RTA defines poor condition for this parameter as follows, "trash distracts the eye on first glance. Stream, bank surfaces, and immediate riparian zone contain substantial levels of litter and debris (>100 pieces). Evidence of site being used frequently by people: many cans, bottles, and food wrappers, blankets, clothing." Regional Water Board staff trained in the RTA inspected the available photographic evidence and applied the assessment method to determine the Level of Trash score. If the RTA Parameter 3 (Threat to Aquatic Life) is in the poor condition category (scores 0-5), then WILD is not supported. This level of trash is a "large amount (>50 pieces) of transportable, persistent, buoyant litter" that is detrimental to aquatic life. The RTA defines poor condition for this parameter as follows, "large amount (>50 pieces) of transportable, persistent, buoyant litter such as: hard or soft plastics, balloons, Styrofoam, cigarette butts; toxic items such as batteries, lighters, or spray cans; large clumps of yard waste or dumped leaf litter; or large amount (>50 pieces) of settleable glass or metal." Regional Water Board staff trained in the RTA inspected the available photographic evidence and applied the assessment method to determine the Threat to Aquatic Life score.
Evaluation Guideline Reference(s):	A Rapid Trash Assessment Method Applied to Waters of the San Francisco Bay Region:Trash Measurement in Streams
Spatial Representation:	Photographic evidence was analyzed using the RTA methodology for this waterbody for two different locations in 2006.
Temporal Representation:	Photographic evidence was collected for this waterbody in 2006.
Environmental Conditions:	
QAPP Information:	Assessments of the photographic evidence using the RTA were performed by Regional Water Board staff person who was a co-author of the Rapid Trash Assessment methodology. Assessments based on photographic evidence were only conducted when sufficient reach-scale and close-up photos were available for a site on a specific date. Photos used for the evaluation needed to be numerous enough and clear enough to document the level of trash at the site in a similar way as the assessor would experience during an actual site visit in the field. For example, at a minimum, one reach-scale photograph (showing at least a 100 linear foot section of the waterbody) and two close-up photographs (of representative trash deposits) were required.

Almaden Lake — Mercury (tissue)

Decision ID: 7613

Pollutant: Mercury (tissue)
Status: Decision in Progress
Weight of Evidence: This pollutant is being considered for listing under sections 3.5 and 3.1 of the Listing Policy. Under these sections, a single line of evidence is necessary to assess listing status.
One line of evidence is available in the administrative record to assess this pollutant. This line of evidence consists of fish tissue data collected by Tetra Tech, Inc. for the Santa Clara Valley Water District was collected in 2004 to support TMDL efforts in the Guadalupe River Watershed.
Based on the readily available data for this waterbody, the weight of evidence indicates that there is sufficient justification available in favor of adding this water segment-pollutant combination to the section 303(d) list in the Water Quality Limited Segments category.

This conclusion is based on the staff findings that:
1. The data concerning current conditions and supporting the listing decision satisfy the data quality requirements of section 6.1.4 of the Policy.
2. The available data satisfy the data quantity requirements of section 6.1.5 of the Policy.
3. 20 of 20 samples exceeded the U.S. EPA fish tissue methylmercury criterion for the protection of human health, and this exceeds the allowable frequency listed in Table 3.1 of the Listing Policy.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Lines of Evidence:

LOE ID:	5738
Pollutant:	Mercury (tissue)
Subgroup:	Pollutant-Tissue
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Matrix:	Tissue
Fraction:	None
Number of Exceedances:	20
Number of Samples:	20
Data Used to Assess Water Quality:	The 20 fish tissue samples were collected in 2004 to support development of the Guadalupe River watershed mercury TMDL. The fish were all largemouth bass ranging in lengths from 305 to 520 mm and weighing between 490 and 2380 grams. The mercury concentrations ranged from 1.1 to 3.78 mg/kg. All 20 fish tissue samples exceeded the criterion.
Data Reference(s):	Technical Memorandum 5.3.2 Data Collection Report, Volume II, prepared by

	TetraTech Inc. for Prepared for Santa Clara Valley Water District. February 8, 2005
Water Quality Objective/Criterion:	The Basin Plan contains the following objective: "Many pollutants can accumulate on particles, in sediment, or bioaccumulate in fish and other aquatic organisms. Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered." In 2001, U.S. EPA adopted a fish tissue methylmercury criterion of 0.3 mg/kg (in whole fish) for the protection of human health.
Water Quality Objective/Criterion Reference(s):	Water Quality Criterion For The Protection of Human Health: Methylmercury 2002 303(d) List Update Reference # 87 San Francisco Bay Basin (Region 2) Water Quality Control Plan (Basin Plan)
Evaluation Guideline:	
Evaluation Guideline Reference(s):	
Spatial Representation:	These fish were caught throughout the reservoir, and fish of this size integrate spatially because they consume prey from a wide spatial range.
Temporal Representation:	Fish tissue data were collected for this waterbody in late summer 2004. These adult fish integrate mercury concentrations over several years.
Environmental Conditions:	
QAPP Information:	There is a well-developed QA plan for these data Tetra Tech, Inc. (Tetra Tech) 2003. Technical Memorandum 7.4.2, Quality Assurance Plan, Prepared for Santa Clara Valley Water District. June 13.
QAPP Information Reference(s):	Technical Memorandum 7.4.2, Quality Assurance Plan, Prepared for Santa Clara Valley Water District. June 13

Almaden Reservoir — Mercury (tissue)

Decision ID: 7736

Pollutant: Mercury (tissue)
Status: Decision in Progress
Weight of Evidence: This pollutant is being considered for listing under sections 3.5 of the Listing Policy. Under this section, a single line of evidence is necessary to assess listing status.
There is one line of evidence available in the administrative record to assess this pollutant. This evidence is a mercury in fish tissue dataset collected in 2004 by Tetra Tech, Inc. for the Santa Clara Valley Water District to support TMDL efforts in the Guadalupe River Watershed.
Based on the readily available data for this waterbody, the weight of evidence indicates that there is sufficient justification available in favor of adding this water segment-pollutant combination to the section 303(d) list in the Water Quality Limited Segments category.

This conclusion is based on the staff findings that:
1. The data concerning current conditions and supporting the listing decision satisfy the data quality requirements of section 6.1.4 of the Policy.
2. The available data satisfy the data quantity requirements of section 6.1.5 of the Policy.
3. 20 of 20 samples exceeded the U.S. EPA fish tissue methylmercury criterion for the protection of human health, and this exceeds the allowable frequency listed in Table 3.1 of the Listing Policy.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Lines of Evidence:

LOE ID:	5739
Pollutant:	Mercury (tissue)
Subgroup:	Pollutant-Tissue
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Matrix:	Tissue
Fraction:	None
Number of Exceedances:	20
Number of Samples:	20
Data Used to Assess Water Quality:	The 20 fish tissue samples were collected in 2004 to support development of the Guadalupe River watershed mercury TMDL. The fish were all largemouth bass ranging in lengths from 330 to 500 mm and weighing between 520 and 2080 grams. The mercury concentrations ranged from 2.16 to 7.35 mg/kg. All 20 fish tissue samples exceeded the criterion.
Data Reference(s):	Technical Memorandum 5.3.2 Data Collection Report, Volume II, prepared by

	TetraTech Inc. for Prepared for Santa Clara Valley Water District. February 8, 2005
Water Quality Objective/Criterion:	The Basin Plan contains the following objective: "Many pollutants can accumulate on particles, in sediment, or bioaccumulate in fish and other aquatic organisms. Controllable water quality factors shall not cause a detrimental increase in concentrations of toxic substances found in bottom sediments or aquatic life. Effects on aquatic organisms, wildlife, and human health will be considered." The 2001 U.S. EPA adopted a fish tissue methylmercury criterion of 0.3 mg/kg (in whole fish) for the protection of human health.
Water Quality Objective/Criterion Reference(s):	Water Quality Criterion For The Protection of Human Health: Methylmercury 2002 303(d) List Update Reference # 87 San Francisco Bay Basin (Region 2) Water Quality Control Plan (Basin Plan)
Evaluation Guideline:	
Evaluation Guideline Reference(s):	
Spatial Representation:	These fish were caught throughout the reservoir, and fish of this size integrate spatially because they consume prey from a wide spatial range.
Temporal Representation:	Fish tissue data were collected for this waterbody in late summer 2004. These adult fish integrate mercury concentrations over several years.
Environmental Conditions:	
QAPP Information:	There is a well-developed QA plan for these data Tetra Tech, Inc. (Tetra Tech) 2003. Technical Memorandum 7.4.2, Quality Assurance Plan, Prepared for Santa Clara Valley Water District. June 13.
QAPP Information Reference(s):	Technical Memorandum 7.4.2, Quality Assurance Plan, Prepared for Santa Clara Valley Water District. June 13

Arroyo Las Positas

Nutrient/Eutrophication Biological Indicators
[Benthic-Macroinvertebrate Bioassessments | Dissolved Oxygen Saturation | Low Dissolved Oxygen | Nitrate]

Decision ID: 7578

Pollutant: Benthic-Macroinvertebrate Bioassessments | Dissolved oxygen saturation | Low Dissolved Oxygen | Nitrate

Status: Decision in Progress

Weight of Evidence: This pollutant is being considered for listing under sections 3.11 of the Listing Policy. Under sections 3.2 and 3.11, water segments shall be evaluated to determine whether the weight of evidence demonstrates that a water quality standard is not attained.
Four lines of evidence are available in the administrative record to assess this pollutant: (1) low dissolved oxygen measurements from continuous dissolved oxygen records, (2) supersaturated dissolved oxygen measurements from continuous dissolved oxygen records, (3) measurements of nitrate as N concentrations in water, and (4) samples of benthic macroinvertebrate assemblages.
Based on the readily available data for this water body, the weight of evidence indicates that there is sufficient justification available in favor of adding this water segment-pollutant combination to the section 303(d) list in the Water Quality Limited Segments category.

This conclusion is based on the staff findings that:
1. The data concerning current conditions and supporting the listing decision satisfy the data quality requirements of section 6.1.4 of the Policy.

2. The data used satisfy the data quantity requirements of section 6.1.5 of the Policy.

3. Minimum dissolved oxygen measurements were below the warm-water water quality objective of 5 mg/L in 4 out of 9 sampling events. Using table 3.2 of the listing policy, a minimum of 5 exceedances are needed to list this waterbody on the 303(d) list with a minimum sample size of 5. However, additional water quality information indicates that this water body is impaired by low dissolved oxygen levels as a result of widespread eutrophic conditions. Under section 3.11, these additional factors shall be considered in a weight of evidence approach in the decision to list a water body as impaired.

4. Supersaturated dissolved oxygen levels greater than 200% were observed in 5 out of 9 deployments, including a maximum value of 395%, indicating tremendous oxygen production by algae (eutrophication).

5. Eight out of 8 nitrate samples had concentrations greater than the guideline of 0.5 mg/L to prevent nuisance algae growth. Additionally, 8 out of 8 nitrate samples had concentrations greater than the guideline of 2.0 mg/L to protect aquatic life from nitrate toxicity. These high nitrate concentrations can promote the growth of periphyton that can cause nuisance and adversely affect beneficial uses.

6. Benthic macroinvertebrate (BMI) assemblages were significantly altered relative to reference conditions, indicating that controllable water quality factors have resulted in significant alterations in the community ecology of receiving waters. These alterations are most likely the result of low levels of dissolved oxygen, which is a result of eutrophication. Of the 6 sites where BMI were sampled, dissolved oxygen was also measured at 4 sites. Three of these sites had dissolved oxygen levels <5 mg/L.

7. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Lines of Evidence:

LOE ID:	4813
Pollutant:	Benthic-Macroinvertebrate Bioassessments
Subgroup:	Population/Community Degradation
Beneficial Use:	Warm Freshwater Habitat
Aquatic Life Use:	Wildlife Habitat
Matrix:	-N/A
Fraction:	None
Number of Exceedances:	7
Number of Samples:	7
Data Used to Assess Water Quality:	Benthic macroinvertebrates were sampled from 7 sites in the Arroyo Las Positas watershed in April 2001 by the SWAMP program. Benthic macroinvertebrate assemblage metrics were well outside the range of scores for minimally disturbed reference sites. Taxa richness scores at all 7 sampled sites in the Arroyo Las Positas watershed ranged from 11 to 16 taxa, whereas taxa richness values at reference sites ranged from 28 to 59. No taxa that are sensitive to pollution were present in any of the samples, indicating that pollution has resulted in significant alterations of community ecology.
Data Reference(s):	Water Quality Monitoring and Bioassessment in Nine San Francisco Bay Region Watersheds: Walker Creek, Lagunitas Creek, San Leandro Creek, Wildcat Creek/San Pablo Creek, Suisun Creek, Arroyo Las Positas, Pescadero Creek/Butano Creek, San Gregorio Creek, and Stevens Creek/Permanente Creek. Oakland, CA: Surface Water Ambient Monitoring Program, San Francisco Bay Regional Water Quality Control Board
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances in concentrations that are lethal to or that produce significant alterations in population or community ecology or receiving water biota. In addition, the health and life history characteristics of aquatic organisms in waters affected by controllable water quality factors shall not differ significantly from those for the same waters in areas unaffected by controllable water quality factors.
Water Quality Objective Reference(s):	San Francisco Bay Basin (Region 2) Water Quality Control Plan (Basin Plan)
Evaluation Guideline:	Benthic macroinvertebrate assemblage metric scores that are outside the range of scores for minimally disturbed reference sites indicate significant alterations in community ecology. Taxa richness values at reference sites sampled by the SWAMP program between 2001 and 2003 ranged from 28 to 59.
Evaluation Guideline Reference(s):	Water Quality Monitoring and Bioassessment in Nine San Francisco Bay Region Watersheds: Walker Creek, Lagunitas Creek, San Leandro Creek, Wildcat Creek/San Pablo Creek, Suisun Creek, Arroyo Las Positas, Pescadero Creek/Butano Creek, San Gregorio Creek, and Stevens Creek/Permanente Creek.

	Oakland, CA: Surface Water Ambient Monitoring Program, San Francisco Bay Regional Water Quality Control Board
Spatial Representation:	Benthic macroinvertebrates were sampled from 7 sites throughout the watershed. Five sites were sampled on the main stem of Arroyo Las Positas, and 2 sites were sampled on Altamont Creek, the major perennial tributary of Arroyo Las Positas.
Temporal Representation:	Benthic macroinvertebrates were sampled once in April, 2001.
Environmental Conditions:	Arroyo Las Positas flows west through the eastern Livermore valley before its confluence with Arroyo Mocho in eastern Pleasanton. The lower and middle sections of the stream and Altamont Creek flow through the northern portion of the city of Livermore, a city of 82,000 people. The upper watershed is primarily used for cattle grazing. The main stem of Arroyo Las Positas is almost completely devoid of riparian vegetation as a result of extensive channel alteration.
QAPP Information:	All samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB 2002).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. December 2002 (1st version)

LOE ID:	4810
Pollutant:	Low Dissolved Oxygen
Subgroup:	Pollutant-Water
Beneficial Use:	Warm Freshwater Habitat
Aquatic Life Use:	Wildlife Habitat
Matrix:	Water
Fraction:	None
Number of Exceedances:	4
Number of Samples:	9
Data Used to Assess Water Quality:	Data used to evaluate dissolved oxygen were collected by SWAMP in 2002. In 4 out of 9 deployments, minimum dissolved oxygen levels fell below the objective of 5 mg/L. Minimum values were nearly anoxic (0.56 mg/L) at one site in the summer season. Low dissolved oxygen concentrations generally occurred during the night and early morning hours. Continuous depressed levels of dissolved oxygen (< 5.0 mg/L) lasted from over 5 hours (dry season, downstream location) to 12 hours and 45 minutes (dry season, Altamont Creek upstream of confluence with Arroyo Las Positas). Dissolved oxygen levels fell below 5 mg/L during one additional deployment in the upstream section of Arroyo Las Positas. The longest duration of suppressed oxygen levels lasted for over 12 hours and the patterns of dissolved oxygen concentrations at this location followed closely that of Altamont Creek. Although these measurements support the listing decision and indicate that dissolved oxygen levels are the cause of the impairment, they cannot be used directly because of the marginal (by +/- 0.4%) exceedance of the quality assurance requirements.
Data Reference(s):	Water Quality Monitoring and Bioassessment in Nine San Francisco Bay Region Watersheds: Walker Creek, Lagunitas Creek, San Leandro Creek, Wildcat Creek/San Pablo Creek, Suisun Creek, Arroyo Las Positas, Pescadero Creek/Butano Creek, San Gregorio Creek, and Stevens Creek/Permanente Creek. Oakland, CA: Surface Water Ambient Monitoring Program, San Francisco Bay Regional Water Quality Control Board
Water Quality Objective/Criterion:	The numeric water quality objective for dissolved oxygen is 5.0 mg/L minimum for waters designated as warm freshwater habitat. The median dissolved oxygen concentration for any three consecutive months shall not be less than 80 percent of

	the dissolved oxygen content at saturation.
Water Quality Objective Reference(s):	San Francisco Bay Basin (Region 2) Water Quality Control Plan (Basin Plan)
Spatial Representation:	Dissolved oxygen was measured at five sites. Three of these sites were located on the mainstem of Arroyo Las Positas, while one site each was located on Altamont Creek and Arroyo Seco, two major tributaries. The lowest dissolved oxygen levels were measured at site ALP105 on Altamont Creek. Low dissolved oxygen levels also occurred in the mainstem of Arroyo Las Positas during the summer season.
Temporal Representation:	The SWAMP Program performed continuous monitoring of dissolved oxygen at 15 minute intervals for periods of 1-2 weeks in each of three different seasons: winter (March 2002; 3 sites, 1 site meeting quality assurance (QA) requirements), spring (April 2002; 5 sites, 4 sites meeting QA requirements), and summer (late June and late July 2002; 5 sites, 4 sites meeting QA requirements).
Environmental Conditions:	Arroyo Las Positas flows west through the eastern Livermore valley before its confluence with Arroyo Mocho in eastern Pleasanton. The lower and middle sections of Arroyo Las Positas and Altamont Creek flow through the northern portion of the city of Livermore, a city of 82,000 people. The upper watershed is primarily used for cattle grazing. The lowest and highest dissolved oxygen levels were measured in a section of Altamont Creek that contained very high amounts of benthic algae and was located downstream of a golf course and small eutrophic pond. The main stem of Arroyo Las Positas is almost completely devoid of riparian vegetation as a result of extensive channel alteration and incision.
QAPP Information:	All samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB 2002).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. December 2002 (1st version)

LOE ID:	4811
Pollutant:	Dissolved oxygen saturation
Subgroup:	Pollutant-Water
Beneficial Use:	Warm Freshwater Habitat
Aquatic Life Use:	Wildlife Habitat
Matrix:	Water
Fraction:	None
Number of Exceedances:	5
Number of Samples:	9
Data Used to Assess Water Quality:	Data used to evaluate dissolved oxygen was collected by SWAMP. Supersaturated dissolved oxygen levels greater than 200% were observed in 5 out of 9 deployments, including a maximum value of 395%, indicating tremendous oxygen production by algae (eutrophication). Supersatured conditions always occurred during the daylight hours. The maximum diurnal range in dissolved oxygen was greater than 30 mg/L, higher than any values ever reported in the literature (Kent et al. 2005).
Data Reference(s):	Water Quality Monitoring and Bioassessment in Nine San Francisco Bay Region Watersheds: Walker Creek, Lagunitas Creek, San Leandro Creek, Wildcat Creek/San Pablo Creek, Suisun Creek, Arroyo Las Positas, Pescadero Creek/Butano Creek, San Gregorio Creek, and Stevens Creek/Permanente Creek. Oakland, CA: Surface Water Ambient Monitoring Program, San Francisco Bay Regional Water Quality Control Board Algal productivity and nitrate assimilation in an effluent dominated concrete lined

	stream. Journal of the American Water Resources Association: 41: 1109-1128.
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances in concentrations that are lethal to or that produce significant alterations in population or community ecology or receiving water biota.
Water Quality Objective Reference(s):	San Francisco Bay Basin (Region 2) Water Quality Control Plan (Basin Plan)
Evaluation Guideline:	Dissolved oxygen supersaturation above 200 percent results in mortality of fish due to gill and skin lesions from gas bubble disease (Woodbury 1942, Renfro 1963, Weitkamp and Katz 1980).
Evaluation Guideline Reference(s):	A sudden mortality of fishes acoompanying a supersaturation of oxygen in Lake Waubesa, Wisconsin. Trans. Am. Fish. Soc. 71: 112-117 A review of dissolved gas supersaturation literature. Trans. Am. Fish. Soc. 109:659-702 Gas-bubble mortality of fishes in Galveston Bay, Texas. Trans. Am. Fish Soc. 92:320-322
Spatial Representation:	Dissolved oxygen was measured at five sites. Three of these sites were located on the mainstem of Arroyo Las Positas, while one site each was located on the major tributary. The highest dissolved oxygen levels were measured at site ALP105 on Altamont Creek, a major tributary to Arroyo Las Positas.
Temporal Representation:	The SWAMP Program performed continuous monitoring of dissolved oxygen at 15 minute intervals for periods of 1-2 weeks in each of three different seasons: winter (March 2002; 3 sites, 1 site meeting QA requirements), spring (April 2002; 5 sites, 4 sites meeting QA requirements), and summer (late June and late July 2002; 5 sites, 4 sites meeting QA requirements).
Environmental Conditions:	Arroyo Las Positas flows west through the eastern Livermore valley before its confluence with Arroyo Mocho in eastern Pleasanton. The lower and middle sections of Arroyo Las Positas and Altamont Creek flow through the northern portion of the city of Livermore, a city of 82,000 people. The upper watershed is primarily used for cattle grazing. The lowest and highest dissolved oxygen levels were measured in a section of Altamont Creek that contained very high amounts of benthic algae and was located downstream of a golf course and small eutrophic pond. The main stem of Arroyo Las Positas is almost completely devoid of riparian vegetation as a result of extensive channel alteration and incision.
QAPP Information:	All samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB 2002).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. December 2002 (1st version)

LOE ID:	4812
Pollutant:	Nitrate
Subgroup:	Pollutant-Water
Beneficial Use:	Warm Freshwater Habitat
Aquatic Life Use:	Wildlife Habitat
Matrix:	Water
Fraction:	Dissolved
Number of Exceedances:	8
Number of Samples:	8
Data Used to Assess Water Quality:	Eight out of 8 nitrate samples had concentrations greater than 0.5 mg/L. Eight out of 8 nitrate samples also had concentrations greater than 2.0 mg/L. The highest

	concentrations (8.04 mg/L and 6.52 mg/L) occurred at the same site (ALP110; Arroyo Las Positas, just upstream of Altamont Creek) in January and April 2002, and were among the highest nitrate concentrations measured by SWAMP in the SF Bay Region.
Data Reference(s):	Water Quality Monitoring and Bioassessment in Nine San Francisco Bay Region Watersheds: Walker Creek, Lagunitas Creek, San Leandro Creek, Wildcat Creek/San Pablo Creek, Suisun Creek, Arroyo Las Positas, Pescadero Creek/Butano Creek, San Gregorio Creek, and Stevens Creek/Permanente Creek. Oakland, CA: Surface Water Ambient Monitoring Program, San Francisco Bay Regional Water Quality Control Board
Water Quality Objective/Criterion:	Waters shall not contain biostimulatory substances in concentrations that promote aquatic growths to the extent that such growths cause nuisance or adversely affect beneficial uses. All waters shall be maintained free of toxic substances in concentrations that are lethal to or that produce significant alterations in population or community ecology or receiving water biota.
Water Quality Objective Reference(s):	San Francisco Bay Basin (Region 2) Water Quality Control Plan (Basin Plan)
Evaluation Guideline:	1. Total nitrogen levels greater than 0.5 mg/L can result in large masses of nuisance algae unless other factors limit algae growth (Bowie et al. 1985; Biggs 2000). Since nitrate is one component of total nitrogen in water, nitrate levels should also be less than 0.5 mg/L. 2. Nitrate (NO3-N) concentrations above 2.0 mg/L can cause toxicity in a variety of freshwater organisms (Camargo et al. 2005).
Evaluation Guideline Reference(s):	Eutrophication of streams and rivers: dissolved nutrient-chlorophyll relationships for benthic algae. J. N. Am. Benthol. Soc. 19:17-31 Rates, Constant, and Kinetics Formulations in Surface Water Quality Modeling, 2nd Edition. EPA/600/3-85/040. USEPA Environmental Research Laboratory, Athens, GA Nitrate toxicity to aquatic animals: a review with new data for freshwater invertebrates. Chemosphere 58:1255-67
Spatial Representation:	Nitrate was sampled at four sites in the watershed, including two main stem sites and two sites on Altamont Creek, an important tributary.
Temporal Representation:	Water samples were collected for nitrate analyses during three sampling events. The same four sites were sampled during each sampling event. Data are evaluated from the January 2002 and April 2002 sampling events only. Laboratory methods used on samples collected during September 2001 did not meet QA requirements, so this data has not been considered.
Environmental Conditions:	Arroyo Las Positas flows west through the eastern Livermore valley before its confluence with Arroyo Mocho in eastern Pleasanton. The lower and middle sections of the stream and Altamont Creek flow through the northern portion of the city of Livermore, a city of 82,000 people. The upper watershed is primarily used for cattle grazing. The main stem of Arroyo Las Positas is almost completely devoi of riparian vegetation as a result of extensive channel alteration and incision.
QAPP Information:	All samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB 2002).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. December 2002 (1st version)

Arroyo Mocho — Temperature

Decision ID: 7571

Pollutant: Temperature, water
Status: Decision in Progress
Weight of Evidence: This pollutant is being considered for listing under sections 3.2 of the Listing Policy. Under section 3.2 a single line of evidence is necessary to assess listing status.

One line of evidence is available in the administrative record to assess this pollutant. A sufficient number of samples exceed the water quality objective.

Based on the readily available data for this waterbody, the weight of evidence indicates that there is sufficient justification available in favor of adding this water segment-pollutant combination to the section 303(d) list in the Water Quality Limited Segments category.

This conclusion is based on the staff findings that:

1. The data concerning current conditions and supporting the listing decision were collected as part of the SWAMP and satisfy the data quality requirements of section 6.1.4 of the Policy.

2. The data used satisfy the data quantity requirements of section 6.1.5 of the Policy.

3. Temperature measurements at 6 out of 12 continuous deployments exceeded the 14.8 °C evaluation guideline used to interpret the water quality objective for waters designated as cold water habitat and this exceeds the allowable frequency listed in Table 3.2 of the Listing Policy.

4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Lines of Evidence:

LOE ID:	4789
Pollutant:	Temperature, water
Subgroup:	Pollutant-Water
Beneficial Use:	Cold Freshwater Habitat
Aquatic Life Use:	Wildlife Habitat
Matrix:	Water
Fraction:	None
Number of Exceedances:	6
Number of Samples:	12
Data Used to Assess Water Quality:	Comprehensive water quality assessment was conducted at the Arroyo Mocho watershed as part of SWAMP assessment. Continuous field monitoring at 15 minute increments of temperature, dissolved oxygen, pH and specific conductance was conducted to determine temporal variability in basic water quality at five locations throughout the watershed.

	The measured temperatures ranged from 6.1°C to 27.72 °C and varied with season and location. The 14.8 °C criterion for coho salmon was exceeded in 6 out of 12 continuous temperature deployments and the 17 °C criterion for steelhead was also exceeded in 6 out of 12 deployments. High water temperatures exceeding 24 °C, that is a maximum short exposure temperature for survival of salmonids (EPA 1977) were also measured at three monitoring locations at lower and upper reaches of the Creek during spring and summer seasons. At the monitoring site in the lower reach of the Arroyo Mocho Creek high temperature persisted for up to 5.75 hours during spring while at the middle and upper reach it lasted from 5 to more than 9 hours.
Data Reference(s):	Water Quality Monitoring and Bioassessment in Nine San Francisco Bay Region Watersheds: Walker Creek, Lagunitas Creek, San Leandro Creek, Wildcat Creek/San Pablo Creek, Suisun Creek, Arroyo Las Positas, Pescadero Creek/Butano Creek, San Gregorio Creek, and Stevens Creek/Permanente Creek. Oakland, CA: Surface Water Ambient Monitoring Program, San Francisco Bay Regional Water Quality Control Board
Water Quality Objective/Criterion:	Temperature objectives for enclosed bays and estuaries are specified in the "Water Quality Control Plan for Control of Temperature in the Coastal and Interstate Waters and Enclosed Bays of California" including any revisions to the plan. In addition, the following temperature objectives apply to surface waters: The natural receiving water temperature of intrastate waters shall not be altered unless it can be demonstrated to the satisfaction of the Regional Water Board that such alteration in temperature does not adversely affect beneficial uses. The temperature of any cold or warm freshwater habitat shall not be increased by more than 5°F (2.8^{o} C) above natural receiving water temperature.
Water Quality Objective/Criterion Reference(s):	San Francisco Bay Basin (Region 2) Water Quality Control Plan (Basin Plan)
Evaluation Guideline:	Sullivan et al. (2000) reviewed a wide range of studies incorporating information from laboratory-based research, field observations, and risk assessment approaches and developed criteria for assessing temperature risk to aquatic life. The 7-day mean temperature (maximum value of the 7-day moving average of the daily mean temperature) of 14.8°C was established as the upper threshold criterion for coho salmon and 17.0°C for steelhead trout. The risk assessment approach used by Sullivan et al. (2000) suggests that temperatures exceeding the above thresholds will cause 10% reduction in average fish growth compared to optimal conditions.
Evaluation Guideline Reference(s):	An Analysis of the Effects of Temperature on Salmonids of the Pacific Northwest with Implications for Selecting Temperature Criteria
Spatial Representation:	Temperature was measured at five sites located on the mainstem of Arroyo Mocho Creek. The highest temperatures were recorded at the monitoring location southeast of Livermore in August 2004. High temperatures also occurred in the lower reach of the Creek during the spring season of 2004.
Temporal Representation:	In 2004 and 2005 the SWAMP Program performed continuous monitoring of temperature at 15 minute intervals for periods of 1-2 weeks in each of three different seasons: winter (5 sites), spring (5 sites), and summer dry season (2 sites).
QAPP Information:	All samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB 2002).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. December 2002 (1st version)

Baxter Creek (Contra Costa County) Trash

Decision ID: 7634

Pollutant: Trash
Status: Decision in Progress
Weight of Evidence: This pollutant is being considered for placement on the section 303(d) list under section 3.11 of the Listing Policy. Under section 3.11, listing may be proposed based on the situation-specific weight of evidence.

Two lines of evidence is available in the administrative record to assess this pollutant. The lines of evidence consist of interpretation of data from field visits/trash surveys conducted according to the Rapid Trash Assessment (RTA) methodology to assess both non-contact recreation and wildlife beneficial uses.

Based on the readily available trash assessment data for this waterbody, the weight of evidence indicates that there is sufficient justification available in favor of placing this water segment-pollutant combination to the section 303(d) list in the Water Quality Limited Segments category.

This conclusion is based on the staff findings that:

1. Data have been evaluated that supports this decision.
2. The Rapid Trash Assessment methodology results showed that this waterbody had "level of trash" parameter scores in the poor category (indicating impairment of non-contact water recreational beneficial uses) at two locations on five different dates. This waterbody also had "threat to aquatic life" parameter scores in the poor category (indicating threat to Wildlife Habitat beneficial uses) at three different locations on five different dates.
3. This waterbody is considered impaired by trash because there were exceedances of the evaluation guideline (poor condition category for the trash assessment metrics) in more than one location or on more than one date.
4. The data used satisfy the data quality requirements of section 6.1.4 of the Policy.
5. The data used satisfy the data quantity requirements of section 6.1 of the Policy.

Lines of Evidence:

LOE ID: 5212
Pollutant: Trash
Subgroup: Pollutant-Nuisance
Beneficial Use: Non-Contact Recreation
Matrix: Not Specified

Fraction:	None
Number of Exceedances:	5
Number of Samples:	8
Data Used to Assess Water Quality:	Data results were obtained through application the RTA methodology, developed by the Surface Water Ambient Monitoring Program (SWAMP). The RTA documents the total number and characteristics of pieces of trash per one hundred feet of stream or shoreline. The trash assessment protocol involves picking up and tallying all of the trash items found within the defined boundaries of a site. The tally results for "level of trash" (relating to REC2) and "threat to aquatic life" (relating to WILD) assessment parameters were considered for the listing determination. These results are available for field visits/trash surveys conducted in March, July, and November 2004 and June and August 2005 according to the Rapid Trash Assessment methodology. There were exceedances of the evaluation guideline (poor condition category for the trash assessment metric) in more than one location or on more than one date.
Data Reference(s):	A Rapid Trash Assessment Method Applied to Waters of the San Francisco Bay Region:Trash Measurement in Streams Rapid Trash Assessment (RTA) data collected by the SF Bay Region Surface Water Ambient Monitoring Program from 2002-2005 and method description
Water Quality Objective/Criterion:	Basin Plan prohibits discharge of "Rubbish, refuse, bark, sawdust, or other solid wastes into surface waters or at any place where they would contact or where they would be eventually transported to surface waters, including flood plain areas." Basin Plan has a narrative objective for floating material, "Waters shall not contain floating material, including solids, liquids, foams, and scum, in concentrations that cause nuisance or adversely affect beneficial uses." Basin Plan has a narrative objective for settleable material, "Waters shall not contain substances in concentrations that result in the deposition of material that cause nuisance or adversely affect beneficial uses."
Water Quality Objective/Criterion Reference(s):	San Francisco Bay Basin (Region 2) Water Quality Control Plan (Basin Plan)
Evaluation Guideline:	If the Rapid Trash Assessment (RTA) Parameter 1 (Level of Trash) is in the "poor condition category" (scores 0-5), REC2 is not supported. This level of trash "distracts the eye on first glance," making the site unsuitable for recreation. The RTA defines poor condition for this parameter as follows, "trash distracts the eye on first glance. Stream, bank surfaces, and immediate riparian zone contain substantial levels of litter and debris (>100 pieces). Evidence of site being used frequently by people: many cans, bottles, and food wrappers, blankets, clothing." If the RTA Parameter 3 (Threat to Aquatic Life) is in the poor condition category (scores 0-5), then WILD is not supported. This level of trash is a "large amount (>50 pieces) of transportable, persistent, buoyant litter" that is detrimental to aquatic life. The RTA defines poor condition for this parameter as follows, "large amount (>50 pieces) of transportable, persistent, buoyant litter such as: hard or soft plastics, balloons, Styrofoam, cigarette butts; toxic items such as batteries, lighters, or spray cans; large clumps of yard waste or dumped leaf litter; or large amount (>50 pieces) of settleable glass or metal."
Evaluation Guideline Reference(s):	A Rapid Trash Assessment Method Applied to Waters of the San Francisco Bay Region:Trash Measurement in Streams
Spatial Representation:	RTA data were collected for this waterbody in three different locations in 2004 and 2005. Two locations scored in the "poor condition" category for the "Level of

	Trash" parameter associated with this beneficial use.
Temporal Representation:	RTA data were collected for this waterbody in March, July, and November in 2004 and June and August 2005.
Environmental Conditions:	
QAPP Information:	For RTA trash assessment data to be considered, the data must have been collected by field operators that have received a 2-hour training in the Rapid Trash Assessment methodology.

LOE ID:	5276
Pollutant:	Trash
Subgroup:	Pollutant-Nuisance
Beneficial Use:	Wildlife Habitat
Matrix:	Not Specified
Fraction:	None
Number of Exceedances:	8
Number of Samples:	8
Data Used to Assess Water Quality:	Data results were obtained through application the RTA methodology, developed by the Surface Water Ambient Monitoring Program (SWAMP). The RTA documents the total number and characteristics of pieces of trash per one hundred feet of stream or shoreline. The trash assessment protocol involves picking up and tallying all of the trash items found within the defined boundaries of a site. The tally results for "level of trash" (relating to REC2) and "threat to aquatic life" (relating to WILD) assessment parameters were considered for the listing determination. These results are available for field visits/trash surveys conducted in March, July, and November 2004 and June and August 2005 according to the Rapid Trash Assessment methodology. There were exceedances of the evaluation guideline (poor condition category for the trash assessment metric) in more than one location or on more than one date.
Data Reference(s):	A Rapid Trash Assessment Method Applied to Waters of the San Francisco Bay Region:Trash Measurement in Streams Rapid Trash Assessment (RTA) data collected by the SF Bay Region Surface Water Ambient Monitoring Program from 2002-2005 and method description
Water Quality Objective/Criterion:	Basin Plan prohibits discharge of "Rubbish, refuse, bark, sawdust, or other solid wastes into surface waters or at any place where they would contact or where they would be eventually transported to surface waters, including flood plain areas." Basin Plan has a narrative objective for floating material, "Waters shall not contain floating material, including solids, liquids, foams, and scum, in concentrations that cause nuisance or adversely affect beneficial uses." Basin Plan has a narrative objective for settleable material, "Waters shall not contain substances in concentrations that result in the deposition of material that cause nuisance or adversely affect beneficial uses."
Water Quality Objective/Criterion Reference(s):	San Francisco Bay Basin (Region 2) Water Quality Control Plan (Basin Plan)
Evaluation Guideline:	If the Rapid Trash Assessment (RTA) Parameter 1 (Level of Trash) is in the "poor condition category" (scores 0-5), REC2 is not supported. This level of trash "distracts the eye on first glance," making the site unsuitable for recreation. The RTA defines poor condition for this parameter as follows, "trash distracts the eye

	on first glance. Stream, bank surfaces, and immediate riparian zone contain substantial levels of litter and debris (>100 pieces). Evidence of site being used frequently by people: many cans, bottles, and food wrappers, blankets, clothing." If the RTA Parameter 3 (Threat to Aquatic Life) is in the poor condition category (scores 0-5), then WILD is not supported. This level of trash is a "large amount (>50 pieces) of transportable, persistent, buoyant litter" that is detrimental to aquatic life. The RTA defines poor condition for this parameter as follows, "large amount (>50 pieces) of transportable, persistent, buoyant litter such as: hard or soft plastics, balloons, Styrofoam, cigarette butts; toxic items such as batteries, lighters, or spray cans; large clumps of yard waste or dumped leaf litter; or large amount (>50 pieces) of settleable glass or metal."
Evaluation Guideline Reference(s):	A Rapid Trash Assessment Method Applied to Waters of the San Francisco Bay Region:Trash Measurement in Streams
Spatial Representation:	RTA data were collected for this waterbody in three different locations in 2004 and 2005. Two locations scored in the "poor condition" category for the "Level of Trash" parameter associated with this beneficial use.
Temporal Representation:	RTA data were collected for this waterbody in March, July, and November in 2004 and June and August 2005.
Environmental Conditions:	
QAPP Information:	For RTA trash assessment data to be considered, the data must have been collected by field operators that have received a 2-hour training in the Rapid Trash Assessment methodology.

Cerrito Creek — Trash

Decision ID: 7635

Pollutant: Trash
Status: Decision in Progress
Weight of Evidence: This pollutant is being considered for placement on the section 303(d) list under section 3.11 of the Listing Policy. Under section 3.11, listing may be proposed based on the situation-specific weight of evidence.

Two lines of evidence are available in the administrative record to assess this pollutant. One line of evidence concerns the non-contact recreation beneficial use, and the second concerns the wildlife beneficial use. Both lines of evidence involve interpretation of data from field visits/trash surveys conducted according to the Rapid Trash Assessment (RTA) methodology.

Based on the readily available trash assessment data for this waterbody, the weight of evidence indicates that there is sufficient justification available in favor of placing this water segment-pollutant combination to the section 303(d) list in the Water Quality Limited Segments category.

This conclusion is based on the staff findings that:

1. Data have been evaluated that supports this decision.
2. The Rapid Trash Assessment methodology results showed that this waterbody had "level of trash" parameter scores in the poor category (indicating impairment of non-contact water recreational beneficial uses) at one location on three different dates. This waterbody also had "threat to aquatic life" parameter scores in the poor category (indicating threat to Wildlife Habitat beneficial uses) at one location on three different dates.
3. This waterbody is considered impaired by trash because there were exceedances of the evaluation guidelines (poor condition category for the trash assessment metrics) in more than one location or on more than one date.
4. The data used satisfy the data quality requirements of section 6.1.4 of the Policy.
5. The data used satisfy the data quantity requirements of section 6.1 of the Policy.

Lines of Evidence:

LOE ID: 5347
Pollutant: Trash
Subgroup: Pollutant-Nuisance

Beneficial Use:	Non-Contact Recreation
Matrix:	Not Specified
Fraction:	None
Number of Exceedances:	3
Number of Samples:	3
Data Used to Assess Water Quality:	Data results were obtained through application the RTA methodology, developed by the Surface Water Ambient Monitoring Program (SWAMP). The RTA documents the total number and characteristics of pieces of trash per one hundred feet of stream or shoreline. The trash assessment protocol involves picking up and tallying all of the trash items found within the defined boundaries of a site. The tally results for "level of trash" (relating to REC2) and threat to aquatic life (relating to WILD) assessment parameters were considered for the listing determination. These results are available for field visits/trash surveys conducted in March, July, and November 2004 according to the Rapid Trash Assessment methodology. There were exceedances of the evaluation guideline (poor condition category for the trash assessment metric) in more than one location or on more than one date.
Data Reference(s):	A Rapid Trash Assessment Method Applied to Waters of the San Francisco Bay Region:Trash Measurement in Streams Rapid Trash Assessment (RTA) data collected by the SF Bay Region Surface Water Ambient Monitoring Program from 2002-2005 and method description
Water Quality Objective/Criterion:	Basin Plan prohibits discharge of "Rubbish, refuse, bark, sawdust, or other solid wastes into surface waters or at any place where they would contact or where they would be eventually transported to surface waters, including flood plain areas." Basin Plan has a narrative objective for floating material, "Waters shall not contain floating material, including solids, liquids, foams, and scum, in concentrations that cause nuisance or adversely affect beneficial uses." Basin Plan has a narrative objective for settleable material, "Waters shall not contain substances in concentrations that result in the deposition of material that cause nuisance or adversely affect beneficial uses."
Water Quality Objective/Criterion Reference(s):	San Francisco Bay Basin (Region 2) Water Quality Control Plan (Basin Plan)
Evaluation Guideline:	If the Rapid Trash Assessment (RTA) Parameter 1 (Level of Trash) is in the "poor condition category" (scores 0-5), REC2 is not supported. This level of trash "distracts the eye on first glance," making the site unsuitable for recreation. The RTA defines poor condition for this parameter as follows, "trash distracts the eye on first glance. Stream, bank surfaces, and immediate riparian zone contain substantial levels of litter and debris (>100 pieces). Evidence of site being used frequently by people: many cans, bottles, and food wrappers, blankets, clothing." If the RTA Parameter 3 (Threat to Aquatic Life) is in the poor condition category (scores 0-5), then WILD is not supported. This level of trash is a "large amount (>50 pieces) of transportable, persistent, buoyant litter" that is detrimental to aquatic life. The RTA defines poor condition for this parameter as follows, "large amount (>50 pieces) of transportable, persistent, buoyant litter such as: hard or soft plastics, balloons, Styrofoam, cigarette butts; toxic items such as batteries, lighters, or spray cans; large clumps of yard waste or dumped leaf litter; or large amount (>50 pieces) of settleable glass or metal."
Evaluation Guideline Reference(s):	A Rapid Trash Assessment Method Applied to Waters of the San Francisco Bay Region:Trash Measurement in Streams

Spatial Representation:	RTA data were collected for this waterbody in one location in 2004.
Temporal Representation:	RTA data were collected for this waterbody in March, July, and November in 2004.
Environmental Conditions:	
QAPP Information:	For RTA trash assessment data to be considered, the data must have been collected by field operators that have received a 2-hour training in the Rapid Trash Assessment methodology.

LOE ID:	5349
Pollutant:	Trash
Subgroup:	Pollutant-Nuisance
Beneficial Use:	Wildlife Habitat
Matrix:	Not Specified
Fraction:	None
Number of Exceedances:	3
Number of Samples:	3
Data Used to Assess Water Quality:	Data results were obtained through application the RTA methodology, developed by the Surface Water Ambient Monitoring Program (SWAMP). The RTA documents the total number and characteristics of pieces of trash per one hundred feet of stream or shoreline. The trash assessment protocol involves picking up and tallying all of the trash items found within the defined boundaries of a site. The tally results for level of trash (relating to REC2) and threat to aquatic life (relating to WILD) assessment parameters were considered for the listing determination. These results are available for field visits/trash surveys conducted in March, July, and November 2004 according to the Rapid Trash Assessment methodology. There were exceedances of the evaluation guideline (poor condition category for the trash assessment metric) in more than one location or on more than one date.
Data Reference(s):	A Rapid Trash Assessment Method Applied to Waters of the San Francisco Bay Region:Trash Measurement in Streams Rapid Trash Assessment (RTA) data collected by the SF Bay Region Surface Water Ambient Monitoring Program from 2002-2005 and method description
Water Quality Objective/Criterion:	Basin Plan prohibits discharge of "Rubbish, refuse, bark, sawdust, or other solid wastes into surface waters or at any place where they would contact or where they would be eventually transported to surface waters, including flood plain areas." Basin Plan has a narrative objective for floating material, "Waters shall not contain floating material, including solids, liquids, foams, and scum, in concentrations that cause nuisance or adversely affect beneficial uses." Basin Plan has a narrative objective for settleable material, "Waters shall not contain substances in concentrations that result in the deposition of material that cause nuisance or adversely affect beneficial uses."
Water Quality Objective/Criterion Reference(s):	San Francisco Bay Basin (Region 2) Water Quality Control Plan (Basin Plan)
Evaluation Guideline:	If the Rapid Trash Assessment (RTA) Parameter 1 (Level of Trash) is in the "poor condition category" (scores 0-5), REC2 is not supported. This level of trash "distracts the eye on first glance," making the site unsuitable for recreation. The RTA defines poor condition for this parameter as follows, "trash distracts the eye on first glance. Stream, bank surfaces, and immediate riparian zone contain

	substantial levels of litter and debris (>100 pieces). Evidence of site being used frequently by people: many cans, bottles, and food wrappers, blankets, clothing." If the RTA Parameter 3 (Threat to Aquatic Life) is in the poor condition category (scores 0-5), then WILD is not supported. This level of trash is a "large amount (>50 pieces) of transportable, persistent, buoyant litter" that is detrimental to aquatic life. The RTA defines poor condition for this parameter as follows, "large amount (>50 pieces) of transportable, persistent, buoyant litter such as: hard or soft plastics, balloons, Styrofoam, cigarette butts; toxic items such as batteries, lighters, or spray cans; large clumps of yard waste or dumped leaf litter; or large amount (>50 pieces) of settleable glass or metal."
Evaluation Guideline Reference(s):	A Rapid Trash Assessment Method Applied to Waters of the San Francisco Bay Region:Trash Measurement in Streams
Spatial Representation:	RTA data were collected for this waterbody in one location in 2004.
Temporal Representation:	RTA data were collected for this waterbody in March, July, and November in 2004.
Environmental Conditions:	
QAPP Information:	For RTA trash assessment data to be considered, the data must have been collected by field operators that have received a 2-hour training in the Rapid Trash Assessment methodology.

Colma Creek — Trash

Decision ID: 7636

Pollutant: Trash
Status: Decision in Progress
Weight of Evidence: This pollutant is being considered for placement on the section 303(d) list under section 3.11 of the Listing Policy. Under section 3.11, listing may be proposed based on the situation-specific weight of evidence.

Two lines of evidence are available in the administrative record to assess this pollutant. One line of evidence concerns the non-contact recreation beneficial use, and the second line of evidence concerns the wildlife habitat beneficial use. Both lines of evidence involve inspection of photographic evidence by Regional Water Board staff trained to conduct the Rapid Trash Assessment (RTA) methodology. The staff inspected these photos and applied the RTA methodology to develop Category 1 (Level of Trash) and Category 3 (Threat to Aquatic Life) scores for each photograph.

Based on the readily available photographic evidence for this waterbody, the weight of evidence indicates that there is sufficient justification available in favor of placing this water segment-pollutant combination to the section 303(d) list in the Water Quality Limited Segments category.

This conclusion is based on the staff findings that:

1. Photographic evidence has been evaluated that supports this decision.

2. Applying the Rapid Trash Assessment methodology to the photographic evidence suggests that this waterbody had "level of trash" parameter scores in the poor category (indicating impairment of non-contact water recreational beneficial uses) at two locations on three different dates. This waterbody also had "threat to aquatic life" parameter scores in the poor category (indicating threat to Wildlife Habitat beneficial uses) at three different locations on six different dates.

3. This waterbody is considered impaired by trash because there were exceedances of the evaluation guidelines (poor condition category for the trash assessment metrics) in more than one location or on more than one date.

4. The data used satisfy the data quality requirements of section 6.1.4 of the Policy.

5. The data used satisfy the data quantity requirements of section 6.1 of the Policy.

Lines of Evidence:

LOE ID: 5282
Pollutant: Trash
Subgroup: Pollutant-Nuisance
Beneficial Use: Wildlife Habitat
Matrix: Not Specified

Fraction:	None
Number of Exceedances:	8
Number of Samples:	8
Data Used to Assess Water Quality:	Data available consist of photographic evidence of trash and interpretation of these photos by an experienced trash assessment specialist. Each photograph was analyzed to establish the RTA score for the "level of trash" and "threat to aquatic life" parameters, which relate to impairment of REC2 and WILD, respectively. Only those photos clear enough to establish these RTA scores were relied on for the listing determination. These results are available for the following dates and locations on Colma Creek: Mitchell Ave. on 12/31/2002, 12/10/03, 1/6/2005, 2/3/2006, 4/1/2006 Utah Ave. Bridge on 1/29/2002, 12/31/2002, 2/3/2006, 4/1/2006 Pedestrian Crossing Bridge on 12/31/2002 There were exceedances of the evaluation guideline (poor condition category for the trash assessment metric) in more than one location or on more than one date.
Data Reference(s):	Archive of Trash Photos for Colma Creek submitted for 2008 303(d) list consideration Report from Roger James and Larry Kolb containing Trash Photos submitted for consideration in 2008 303(d) listing process Assessment by Matt Cover of Trash Photos (submitted to Region 2 in response to 2008 Data Solicitation)
Water Quality Objective/Criterion:	Basin Plan prohibits discharge of "Rubbish, refuse, bark, sawdust, or other solid wastes into surface waters or at any place where they would contact or where they would be eventually transported to surface waters, including flood plain areas." Basin Plan has a narrative objective for floating material, "Waters shall not contain floating material, including solids, liquids, foams, and scum, in concentrations that cause nuisance or adversely affect beneficial uses." Basin Plan has a narrative objective for settleable material, "Waters shall not contain substances in concentrations that result in the deposition of material that cause nuisance or adversely affect beneficial uses."
Water Quality Objective/Criterion Reference(s):	San Francisco Bay Basin (Region 2) Water Quality Control Plan (Basin Plan)
Evaluation Guideline:	If the Rapid Trash Assessment (RTA) Parameter 1 (Level of Trash) is in the "poor condition category" (scores 0-5), REC2 is not supported. This level of trash "distracts the eye on first glance," making the site unsuitable for recreation. The RTA defines poor condition for this parameter as follows, "trash distracts the eye on first glance. Stream, bank surfaces, and immediate riparian zone contain substantial levels of litter and debris (>100 pieces). Evidence of site being used frequently by people: many cans, bottles, and food wrappers, blankets, clothing." Regional Water Board staff trained in the RTA inspected the available photographic evidence and applied the assessment method to determine the Level of Trash score. If the RTA Parameter 3 (Threat to Aquatic Life) is in the poor condition category (scores 0-5), then WILD is not supported. This level of trash is a "large amount (>50 pieces) of transportable, persistent, buoyant litter" that is detrimental to aquatic life. The RTA defines poor condition for this parameter as follows, "large amount (>50 pieces) of transportable, persistent, buoyant litter such as: hard or

	soft plastics, balloons, Styrofoam, cigarette butts; toxic items such as batteries, lighters, or spray cans; large clumps of yard waste or dumped leaf litter; or large amount (>50 pieces) of settleable glass or metal." Regional Water Board staff trained in the RTA inspected the available photographic evidence and applied the assessment method to determine the Threat to Aquatic Life score.
Evaluation Guideline Reference(s):	A Rapid Trash Assessment Method Applied to Waters of the San Francisco Bay Region:Trash Measurement in Streams
Spatial Representation:	Photographic evidence was analyzed using the RTA methodology for this waterbody for three different locations spanning dates from 2002 through 2006. Three locations scored in the "poor condition" category for the "threat to aquatic life" parameter.
Temporal Representation:	Photographic evidence was collected for this waterbody on six separate dates from 2003 through 2006. Data from six sampling dates scored in the "poor condition" category for the "Transportable, Persistent, Buoyant Litter" parameter.
Environmental Conditions:	
QAPP Information:	Assessments of the photographic evidence using the RTA were performed by Regional Water Board staff person who was a co-author of the Rapid Trash Assessment methodology. Assessments based on photographic evidence were only conducted when sufficient reach-scale and close-up photos were available for a site on a specific date. Photos used for the evaluation needed to be numerous enough and clear enough to document the level of trash at the site in a similar way as the assessor would experience during an actual site visit in the field. For example, at a minimum, one reach-scale photograph (showing at least a 100 linear foot section of the waterbody) and two close-up photographs (of representative trash deposits) were required.

LOE ID:	5279
Pollutant:	Trash
Subgroup:	Pollutant-Nuisance
Beneficial Use:	Non-Contact Recreation
Matrix:	Not Specified
Fraction:	None
Number of Exceedances:	5
Number of Samples:	8
Data Used to Assess Water Quality:	Data available consist of photographic evidence of trash and interpretation of these photos by an experienced trash assessment specialist. Each photograph was analyzed to establish the RTA score for the "level of trash" and "threat to aquatic life" parameters, which relate to impairment of REC2 and WILD, respectively. Only those photos clear enough to establish these RTA scores were relied on for the listing determination. These results are available for the following dates and locations on Colma Creek: Mitchell Ave. on 12/31/2002, 12/10/03, 1/6/2005, 2/3/2006, 4/1/2006 Utah Ave. Bridge on 1/29/2002, 12/31/2002, 2/3/2006, 4/1/2006 Pedestrian Crossing Bridge on 12/31/2002 This waterbody had level of trash parameter scores in the poor category

	(indicating impairment of non-contact water recreational beneficial uses) at more than one location and on three different dates.
Data Reference(s):	Archive of Trash Photos for Colma Creek submitted for 2008 303(d) list consideration Report from Roger James and Larry Kolb containing Trash Photos submitted for consideration in 2008 303(d) listing process Assessment by Matt Cover of Trash Photos (submitted to Region 2 in response to 2008 Data Solicitation)
Water Quality Objective/Criterion:	Basin Plan prohibits discharge of "Rubbish, refuse, bark, sawdust, or other solid wastes into surface waters or at any place where they would contact or where they would be eventually transported to surface waters, including flood plain areas." Basin Plan has a narrative objective for floating material, "Waters shall not contain floating material, including solids, liquids, foams, and scum, in concentrations that cause nuisance or adversely affect beneficial uses." Basin Plan has a narrative objective for settleable material, "Waters shall not contain substances in concentrations that result in the deposition of material that cause nuisance or adversely affect beneficial uses."
Water Quality Objective/Criterion Reference(s):	San Francisco Bay Basin (Region 2) Water Quality Control Plan (Basin Plan)
Evaluation Guideline:	If the Rapid Trash Assessment (RTA) Parameter 1 (Level of Trash) is in the "poor condition category" (scores 0-5), REC2 is not supported. This level of trash "distracts the eye on first glance," making the site unsuitable for recreation. The RTA defines poor condition for this parameter as follows, "trash distracts the eye on first glance. Stream, bank surfaces, and immediate riparian zone contain substantial levels of litter and debris (>100 pieces). Evidence of site being used frequently by people: many cans, bottles, and food wrappers, blankets, clothing." Regional Water Board staff trained in the RTA inspected the available photographic evidence and applied the assessment method to determine the Level of Trash score. If the RTA Parameter 3 (Threat to Aquatic Life) is in the poor condition category (scores 0-5), then WILD is not supported. This level of trash is a "large amount (>50 pieces) of transportable, persistent, buoyant litter" that is detrimental to aquatic life. The RTA defines poor condition for this parameter as follows, "large amount (>50 pieces) of transportable, persistent, buoyant litter such as: hard or soft plastics, balloons, Styrofoam, cigarette butts; toxic items such as batteries, lighters, or spray cans; large clumps of yard waste or dumped leaf litter; or large amount (>50 pieces) of settleable glass or metal." Regional Water Board staff trained in the RTA inspected the available photographic evidence and applied the assessment method to determine the Threat to Aquatic Life score.
Evaluation Guideline Reference(s):	A Rapid Trash Assessment Method Applied to Waters of the San Francisco Bay Region:Trash Measurement in Streams
Spatial Representation:	Photographic evidence was analyzed using the RTA methodology for this waterbody for three different locations spanning dates from 2002 through 2006. Two locations scored in the "poor condition" category for the "Level of Trash" parameter.
Temporal Representation:	Photographic evidence was collected for this waterbody on six separate dates from 2003 through 2006. Data from three sampling dates scored in the "poor condition" category for the "Level of Trash" parameter.
Environmental Conditions:	

QAPP Information:	Assessments of the photographic evidence using the RTA were performed by Regional Water Board staff person who was a co-author of the Rapid Trash Assessment methodology. Assessments based on photographic evidence were only conducted when sufficient reach-scale and close-up photos were available for a site on a specific date. Photos used for the evaluation needed to be numerous enough and clear enough to document the level of trash at the site in a similar way as the assessor would experience during an actual site visit in the field. For example, at a minimum, one reach-scale photograph (showing at least a 100 linear foot section of the waterbody) and two close-up photographs (of representative trash deposits) were required.

Codornices Creek

Temperature | Trash

Decision ID: 9163

Pollutant: Temperature, water

Status: Decision in Progress

Weight of Evidence: This pollutant is being considered for listing under sections 3.2 of the Listing Policy. Under section 3.2 a single line of evidence is necessary to assess listing status.

One line of evidence is available in the administrative record to assess this pollutant. A sufficient number of samples exceed the water quality objective.

Based on the readily available data for this waterbody, the weight of evidence indicates that there is sufficient justification available in favor of adding this water segment-pollutant combination to the section 303(d) list in the Water Quality Limited Segments category.

This conclusion is based on the staff findings that:

1. The data concerning current conditions and supporting the listing decision were collected as part of the SWAMP and satisfy the data quality requirements of section 6.1.4 of the Policy.

2. The data used satisfy the data quantity requirements of section 6.1.5 of the Policy.

3. Temperature measurements at 6 out of 11 continuous deployments exceeded the 17 °C evaluation guideline used to interpret the water quality objective for waters designated as cold water habitat and this exceeds the allowable frequency listed in Table 3.2 of the Listing Policy.

4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Lines of Evidence:

LOE ID:	8555
Pollutant:	Temperature, water
Subgroup:	Pollutant-Water
Beneficial Use:	Cold Freshwater Habitat
Aquatic Life Use:	Wildlife Habitat
Matrix:	Water
Fraction:	None
Number of Exceedances:	6
Number of Samples:	11
Data Used to Asses Water Quality:	Water quality assessment was conducted at the Codornices Creek watershed as part of SWAMP study in 2004-2005. Continuous field monitoring at 15 minute

	increments of temperature, dissolved oxygen, pH and specific conductance was conducted to determine temporal variability in basic water quality at three locations. Continuous monitoring sondes were deployed 11 times at 3 monitoring locations during wet, spring and two dry seasons. The measured temperatures ranged from 8.9°C to 21.5 °C and varied with season and location. During both dry season deployments at all 3 monitoring locations the 7-day mean temperature threshold for steelhead was exceeded. In total, the 17 °C criterion was exceeded in 6 out of 11 deployments. The durations of the temperature exceedances ranged from 19 to over 125 hours.
Data Reference(s):	Data collected by the Surface Water Ambient Monitoring Program, San Francisco Bay Regional Water Quality Control Board. Year 4 and 5 Assessment
Water Quality Objective/Criterion:	Temperature objectives for enclosed bays and estuaries are specified in the "Water Quality Control Plan for Control of Temperature in the Coastal and Interstate Waters and Enclosed Bays of California" including any revisions to the plan. In addition, the following temperature objectives apply to surface waters: The natural receiving water temperature of intrastate waters shall not be altered unless it can be demonstrated to the satisfaction of the Regional Water Board that such alteration in temperature does not adversely affect beneficial uses. The temperature of any cold or warm freshwater habitat shall not be increased by more than 5°F (2.8^{o} C) above natural receiving water temperature.
Water Quality Objective/Criterion Reference(s):	San Francisco Bay Basin (Region 2) Water Quality Control Plan (Basin Plan)
Evaluation Guideline:	Sullivan et al. (2000) reviewed a wide range of studies incorporating information from laboratory-based research, field observations, and risk assessment approaches and developed criteria for assessing temperature risk to aquatic life. The 7-day mean temperature (maximum value of the 7-day moving average of the daily mean temperature) of 14.8°C was established as the upper threshold criterion for coho salmon and 17.0°C for steelhead trout. The risk assessment approach used by Sullivan et al. (2000) suggests that temperatures exceeding the above thresholds will cause 10% reduction in average growth compared to optimal conditions.
Evaluation Guideline Reference(s):	An Analysis of the Effects of Temperature on Salmonids of the Pacific Northwest with Implications for Selecting Temperature Criteria
Spatial Representation:	Temperature was measured at three sites located on the mainstem of Codornices Creek that are representative of the entire creek length. The highest temperatures were recorded at the most downstream monitoring station in September 2004.
Temporal Representation:	In 2004 and 2005 the SWAMP Program performed continuous monitoring of temperature at 15 minute intervals for periods of 1-2 weeks in each of three different seasons: winter (3 sites), spring (2 sites), and two summer dry seasons (3 sites each season).
Environmental Conditions:	
QAPP Information:	All samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB 2002).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. December 2002 (1st version)

Decision ID:	7637
Pollutant:	Trash
Status:	Decision in Progress
Weight of Evidence:	This pollutant is being considered for placement on the section 303(d) list under section 3.11 of the Listing Policy. Under section 3.11, listing may be proposed based on the situation-specific weight of evidence. One line of evidence is available in the administrative record to assess this pollutant. The line of evidence consists of data from field visits/trash surveys conducted according to the Rapid Trash Assessment (RTA) methodology. Based on the readily available trash assessment data for this waterbody, the weight of evidence indicates that there is sufficient justification available in favor of placing this water segment-pollutant combination to the section 303(d) list in the Water Quality Limited Segments category. This conclusion is based on the staff findings that: 1. Data have been evaluated that supports this decision. 2. The Rapid Trash Assessment methodology results showed that this waterbody had "threat to aquatic life" parameter scores in the poor category (indicating threat to Wildlife Habitat beneficial uses) on three different dates. 3. This waterbody is considered impaired by trash because there were exceedances of the evaluation guideline (poor condition category for the trash assessment metric) in more than one location or on more than one date. 4. The data used satisfy the data quality requirements of section 6.1.4 of the Policy. 5. The data used satisfy the data quantity requirements of section 6.1 of the Policy.

Lines of Evidence:

LOE ID:	5366
Pollutant:	Trash
Subgroup:	Pollutant-Nuisance
Beneficial Use:	Wildlife Habitat
Matrix:	Not Specified
Fraction:	None
Number of Exceedances:	3
Number of Samples:	4
Data Used to Assess Water Quality:	Data results were obtained through application the RTA methodology, developed by the Surface Water Ambient Monitoring Program (SWAMP). The RTA documents the total number and characteristics of pieces of trash per one hundred feet of stream or shoreline. The trash assessment protocol involves picking up and tallying all of the trash items found within the defined boundaries of a site. The tally results for level of trash (relating to REC2) and threat to aquatic life (relating to WILD) assessment parameters were considered for the listing determination. These results are available for field visits/trash surveys conducted in March, July, and November 2004 according to the Rapid Trash Assessment methodology. There were exceedances of the evaluation guideline (poor condition category for

	the trash assessment metric) in more than one location or on more than one date.
Data Reference(s):	A Rapid Trash Assessment Method Applied to Waters of the San Francisco Bay Region:Trash Measurement in Streams Rapid Trash Assessment (RTA) data collected by the SF Bay Region Surface Water Ambient Monitoring Program from 2002-2005 and method description
Water Quality Objective/Criterion:	Basin Plan prohibits discharge of "Rubbish, refuse, bark, sawdust, or other solid wastes into surface waters or at any place where they would contact or where they would be eventually transported to surface waters, including flood plain areas." Basin Plan has a narrative objective for floating material, "Waters shall not contain floating material, including solids, liquids, foams, and scum, in concentrations that cause nuisance or adversely affect beneficial uses." Basin Plan has a narrative objective for settleable material, "Waters shall not contain substances in concentrations that result in the deposition of material that cause nuisance or adversely affect beneficial uses."
Water Quality Objective/Criterion Reference(s):	San Francisco Bay Basin (Region 2) Water Quality Control Plan (Basin Plan)
Evaluation Guideline:	If the Rapid Trash Assessment (RTA) Parameter 1 (Level of Trash) is in the "poor condition category" (scores 0-5), REC2 is not supported. This level of trash "distracts the eye on first glance," making the site unsuitable for recreation. The RTA defines poor condition for this parameter as follows, "trash distracts the eye on first glance. Stream, bank surfaces, and immediate riparian zone contain substantial levels of litter and debris (>100 pieces). Evidence of site being used frequently by people: many cans, bottles, and food wrappers, blankets, clothing." If the RTA Parameter 3 (Threat to Aquatic Life) is in the poor condition category (scores 0-5), then WILD is not supported. This level of trash is a "large amount (>50 pieces) of transportable, persistent, buoyant litter" that is detrimental to aquatic life. The RTA defines poor condition for this parameter as follows, "large amount (>50 pieces) of transportable, persistent, buoyant litter such as: hard or soft plastics, balloons, Styrofoam, cigarette butts; toxic items such as batteries, lighters, or spray cans; large clumps of yard waste or dumped leaf litter; or large amount (>50 pieces) of settleable glass or metal."
Evaluation Guideline Reference(s):	A Rapid Trash Assessment Method Applied to Waters of the San Francisco Bay Region:Trash Measurement in Streams
Spatial Representation:	RTA data were collected for this waterbody in one location in 2004. This location scored in the "poor condition" category for the "threat to aquatic life" parameter.
Temporal Representation:	RTA data were collected for this waterbody in March, July, and November in 2004. Data from all three months scored in the "poor condition" category for the "threat to aquatic life" parameter.
Environmental Conditions:	
QAPP Information:	For RTA trash assessment data to be considered, the data must have been collected by field operators that have received a 2-hour training in the Rapid Trash Assessment methodology.

Coyote Creek (Santa Clara Co.) Trash

Decision ID: 7659

Pollutant: Trash

Status: Decision in Progress

Weight of Evidence: This pollutant is being considered for placement on the section 303(d) list under section 3.11 of the Listing Policy. Under section 3.11, listing may be proposed based on the situation-specific weight of evidence.

Two lines of evidence are available in the administrative record to assess this pollutant. The first line of evidence consists of data from field visits/trash surveys conducted according to the Urban Rapid Trash Assessment (URTA) methodology developed by the Santa Clara Valley Urban Runoff Pollution Prevention Program (SCVURPPP).

The second line of evidence consists of inspection of photographic evidence by Regional Water Board staff trained to conduct the Rapid Trash Assessment (RTA) methodology. The staff inspected these photos and applied the RTA methodology to develop Category 1 (Level of Trash) and Category 3 (Threat to Aquatic Life) scores for each photograph.

Based on the readily available photographic and trash assessment data for this waterbody, the weight of evidence indicates that there is sufficient justification available in favor of placing this water segment-pollutant combination to the section 303(d) list in the Water Quality Limited Segments category.

This conclusion is based on the staff findings that:

1. Data have been evaluated that supports this decision.

2. The Urban Rapid Trash Assessment methodology results showed that this waterbody had “level of trash” parameter scores in the poor category (indicating impairment of non-contact water recreational beneficial uses) at four locations and on a single date. This waterbody also had “transportable, Persistent, Buoyant Litter” parameter scores in the marginal urban and poor category (indicating threat to Wildlife Habitat beneficial uses) at four locations and on two different dates.

3. Photographic evidence has been evaluated that supports this decision.

4. Applying the Rapid Trash Assessment methodology to the photographic evidence suggests that this waterbody had “level of trash” parameter scores in the poor category (indicating impairment of non-contact water recreational beneficial uses) at six locations on eight different dates. This waterbody also had “threat to aquatic life” parameter scores in the poor category (indicating threat to Wildlife Habitat beneficial uses) at seven different locations on nine different dates.

5. This waterbody is considered impaired by trash because there were exceedances of the evaluation guidelines (poor condition category for the trash assessment metrics) in more than one location or on more than one date.

6. The data used satisfy the data quality requirements of section 6.1.4 of the Policy.

7. The data used satisfy the data quantity requirements of section 6.1 of the Policy.

Lines of Evidence:

LOE ID:	5405
Pollutant:	Trash
Subgroup:	Pollutant-Nuisance
Beneficial Use:	Wildlife Habitat
Matrix:	Not Specified
Fraction:	None
Number of Exceedances:	10
Number of Samples:	10
Data Used to Assess Water Quality:	Data available consist of photographic evidence of trash and interpretation of these photos by an experienced trash assessment specialist. Each photograph was analyzed to establish the RTA score for the "level of trash" and "threat to aquatic life" parameters, which relate to impairment of REC2 and WILD, respectively. Only those photos clear enough to establish these RTA scores were relied on for the listing determination. These results are available for the following: Williams Street on 2/21/2005 Various locations on 2/3/2006 Between Montague Expressway and Highway 237 on 2/14/2007 Downstream of Highway 280 on 5/22/2005 At San Antonio St. on 4/27/2005 At Santa Clara St. on 5/20/2006 At the Julian St. Bridge on 3/24/2002, 5/6/2006, and 1/21/2007 At Mabry Rd. on 2/1/2004, and 5/6/2006 This waterbody had "threat to aquatic life" parameter scores in the poor category (indicating threat to Wildlife Habitat beneficial uses) at seven different locations on nine different dates.
Data Reference(s):	Report from Roger James and Larry Kolb containing Trash Photos submitted for consideration in 2008 303(d) listing process Assessment by Matt Cover of Trash Photos (submitted to Region 2 in response to 2008 Data Solicitation) Archive of Trash Photos for Coyote Creek submitted for 2008 303(d) list consideration
Water Quality Objective/Criterion:	Basin Plan prohibits discharge of "Rubbish, refuse, bark, sawdust, or other solid wastes into surface waters or at any place where they would contact or where they would be eventually transported to surface waters, including flood plain areas." Basin Plan has a narrative objective for floating material, "Waters shall not contain floating material, including solids, liquids, foams, and scum, in concentrations that cause nuisance or adversely affect beneficial uses." Basin Plan has a narrative objective for settleable material, "Waters shall not contain substances in concentrations that result in the deposition of material that cause nuisance or adversely affect beneficial uses."
Water Quality Objective/Criterion	San Francisco Bay Basin (Region 2) Water Quality Control Plan (Basin Plan)

Reference(s):	
Evaluation Guideline:	If the Rapid Trash Assessment (RTA) Parameter 1 (Level of Trash) is in the "poor condition category" (scores 0-5), REC2 is not supported. This level of trash "distracts the eye on first glance," making the site unsuitable for recreation. The RTA defines poor condition for this parameter as follows, "trash distracts the eye on first glance. Stream, bank surfaces, and immediate riparian zone contain substantial levels of litter and debris (>100 pieces). Evidence of site being used frequently by people: many cans, bottles, and food wrappers, blankets, clothing." Regional Water Board staff trained in the RTA inspected the available photographic evidence and applied the assessment method to determine the Level of Trash score. If the RTA Parameter 3 (Threat to Aquatic Life) is in the poor condition category (scores 0-5), then WILD is not supported. This level of trash is a "large amount (>50 pieces) of transportable, persistent, buoyant litter" that is detrimental to aquatic life. The RTA defines poor condition for this parameter as follows, "large amount (>50 pieces) of transportable, persistent, buoyant litter such as: hard or soft plastics, balloons, Styrofoam, cigarette butts; toxic items such as batteries, lighters, or spray cans; large clumps of yard waste or dumped leaf litter; or large amount (>50 pieces) of settleable glass or metal." Regional Water Board staff trained in the RTA inspected the available photographic evidence and applied the assessment method to determine the Threat to Aquatic Life score.
Evaluation Guideline Reference(s):	A Rapid Trash Assessment Method Applied to Waters of the San Francisco Bay Region:Trash Measurement in Streams
Spatial Representation:	Photographic evidence was analyzed using the RTA methodology for this waterbody for 8 different locations spanning dates from 2002 through 2007.
Temporal Representation:	Photographic evidence was collected for this waterbody on nine separate dates from 2002 through 2007.
Environmental Conditions:	
QAPP Information:	Assessments of the photographic evidence using the RTA were performed by Regional Water Board staff person who was a co-author of the Rapid Trash Assessment methodology. Assessments based on photographic evidence were only conducted when sufficient reach-scale and close-up photos were available for a site on a specific date. Photos used for the evaluation needed to be numerous enough and clear enough to document the level of trash at the site in a similar way as the assessor would experience during an actual site visit in the field. For example, at a minimum, one reach-scale photograph (showing at least a 100 linear foot section of the waterbody) and two close-up photographs (of representative trash deposits) were required.

LOE ID:	5404
Pollutant:	Trash
Subgroup:	Pollutant-Nuisance
Beneficial Use:	Non-Contact Recreation
Matrix:	Not Specified
Fraction:	None
Number of Exceedances:	3
Number of Samples:	4
Data Used to Assess Water Quality:	Data results were obtained through application of the Urban Rapid Trash Assessment (URTA) methodology, developed by the Santa Clara Valley Urban

	Runoff Pollution Prevention Program. The URTA is a modification of the Rapid Trash Assessment (RTA) developed by the Surface Water Ambient Monitoring Program (SWAMP). The URTA method documents the total number and characteristics of pieces of trash per one hundred feet of stream or shoreline. The trash assessment protocol involves picking up and tallying all of the trash items found within the defined boundaries of a site. The tally results for "level of trash" (relating to REC2) and "transportable, persistent, buoyant litter" (relating to WILD) assessment parameters were considered for the listing determination. This waterbody had level of trash parameter scores in the poor category (indicating impairment of non-contact water recreational beneficial uses) at four locations and on a single date. There were exceedances of the evaluation guideline (poor condition category for the trash assessment metric) in more than one location or on more than one date. These results are available for field visits/trash surveys conducted in October 2004 and March 2005 at four separate locations according to the Urban Rapid Trash Assessment (URTA) methodology.
Data Reference(s):	Memo: Development of Urban Rapid Trash Assessment Protocol. March 13, 2006 Spreadsheet of Urban Rapid Trash Assessment (URTA) data collected by the Santa Clara Valley Urban Runoff Pollution Prevention Program, 2004-2007
Water Quality Objective/Criterion:	Basin Plan prohibits discharge of "Rubbish, refuse, bark, sawdust, or other solid wastes into surface waters or at any place where they would contact or where they would be eventually transported to surface waters, including flood plain areas." Basin Plan has a narrative objective for floating material, "Waters shall not contain floating material, including solids, liquids, foams, and scum, in concentrations that cause nuisance or adversely affect beneficial uses." Basin Plan has a narrative objective for settleable material, "Waters shall not contain substances in concentrations that result in the deposition of material that cause nuisance or adversely affect beneficial uses."
Water Quality Objective/Criterion Reference(s):	San Francisco Bay Basin (Region 2) Water Quality Control Plan (Basin Plan)
Evaluation Guideline:	If the Urban Rapid Trash Assessment (URTA) Parameter 1 (Level of Trash) is in the "poor condition category" (scores 0-5), REC2 is not supported. The URTA defines poor condition for this parameter as a level of trash that "distracts the eye on first glance. Stream, bank surfaces, and immediate riparian zone contain substantial levels of litter and debris. Evidence of site being used frequently by people: many cans, bottles, and food wrappers, blankets, clothing."
Evaluation Guideline Reference(s):	Memo: Development of Urban Rapid Trash Assessment Protocol. March 13, 2006
Spatial Representation:	URTA data were collected for this waterbody in four locations in 2004 and 2005.
Temporal Representation:	URTA data were collected for this waterbody on two separate dates, October 2004 and March 2005.
QAPP Information:	Data were collected by trained staff in accordance with URTA methodology developed by SCVURPPP and are deemed reliable and of sufficient quality on which to base listing determinations.

LOE ID:	5406

Pollutant:	Trash
Subgroup:	Pollutant-Nuisance
Beneficial Use:	Non-Contact Recreation
Matrix:	Not Specified
Fraction:	None
Number of Exceedances:	9
Number of Samples:	10
Data Used to Assess Water Quality:	Data available consist of photographic evidence of trash and interpretation of these photos by an experienced trash assessment specialist. Each photograph was analyzed to establish the RTA score for the "level of trash" and "threat to aquatic life" parameters, which relate to impairment of REC2 and WILD, respectively. Only those photos clear enough to establish these RTA scores were relied on for the listing determination. These results are available for the following: Williams Street on 2/21/2005 Various locations on 2/3/2006 Between Montague Expressway and Highway 237 on 2/14/2007 Downstream of Highway 280 on 5/22/2005 At San Antonio St. on 4/27/2005 At Santa Clara St. on 5/20/2006 At the Julian St. Bridge on 3/24/2002, 5/6/2006, and 1/21/2007 At Mabry Rd. on 2/1/2004, and 5/6/2006. This waterbody had level of trash parameter scores in the poor category (indicating impairment of non-contact water recreational beneficial uses) at six locations on eight different dates.
Data Reference(s):	Report from Roger James and Larry Kolb containing Trash Photos submitted for consideration in 2008 303(d) listing process Assessment by Matt Cover of Trash Photos (submitted to Region 2 in response to 2008 Data Solicitation) Archive of Trash Photos for Coyote Creek submitted for 2008 303(d) list consideration
Water Quality Objective/Criterion:	Basin Plan prohibits discharge of "Rubbish, refuse, bark, sawdust, or other solid wastes into surface waters or at any place where they would contact or where they would be eventually transported to surface waters, including flood plain areas." Basin Plan has a narrative objective for floating material, "Waters shall not contain floating material, including solids, liquids, foams, and scum, in concentrations that cause nuisance or adversely affect beneficial uses." Basin Plan has a narrative objective for settleable material, "Waters shall not contain substances in concentrations that result in the deposition of material that cause nuisance or adversely affect beneficial uses."
Water Quality Objective/Criterion Reference(s):	San Francisco Bay Basin (Region 2) Water Quality Control Plan (Basin Plan)
Evaluation Guideline:	If the Rapid Trash Assessment (RTA) Parameter 1 (Level of Trash) is in the "poor condition category" (scores 0-5), REC2 is not supported. This level of trash "distracts the eye on first glance," making the site unsuitable for recreation. The RTA defines poor condition for this parameter as follows, "trash distracts the eye on first glance. Stream, bank surfaces, and immediate riparian zone contain

	substantial levels of litter and debris (>100 pieces). Evidence of site being used frequently by people: many cans, bottles, and food wrappers, blankets, clothing." Regional Water Board staff trained in the RTA inspected the available photographic evidence and applied the assessment method to determine the Level of Trash score. If the RTA Parameter 3 (Threat to Aquatic Life) is in the poor condition category (scores 0-5), then WILD is not supported. This level of trash is a "large amount (>50 pieces) of transportable, persistent, buoyant litter" that is detrimental to aquatic life. The RTA defines poor condition for this parameter as follows, "large amount (>50 pieces) of transportable, persistent, buoyant litter such as: hard or soft plastics, balloons, Styrofoam, cigarette butts; toxic items such as batteries, lighters, or spray cans; large clumps of yard waste or dumped leaf litter; or large amount (>50 pieces) of settleable glass or metal." Regional Water Board staff trained in the RTA inspected the available photographic evidence and applied the assessment method to determine the Threat to Aquatic Life score.
Evaluation Guideline Reference(s):	Memo: Development of Urban Rapid Trash Assessment Protocol. March 13, 2006
Spatial Representation:	Photographic evidence was analyzed using the RTA methodology for this waterbody for 8 different locations spanning dates from 2002 through 2007.
Temporal Representation:	Photographic evidence was collected for this waterbody on nine separate dates from 2002 through 2007.
Environmental Conditions:	
QAPP Information:	Assessments of the photographic evidence using the RTA were performed by Regional Water Board staff person who was a co-author of the Rapid Trash Assessment methodology. Assessments based on photographic evidence were only conducted when sufficient reach-scale and close-up photos were available for a site on a specific date. Photos used for the evaluation needed to be numerous enough and clear enough to document the level of trash at the site in a similar way as the assessor would experience during an actual site visit in the field. For example, at a minimum, one reach-scale photograph (showing at least a 100 linear foot section of the waterbody) and two close-up photographs (of representative trash deposits) were required.

LOE ID:	5401
Pollutant:	Trash
Subgroup:	Pollutant-Nuisance
Beneficial Use:	Wildlife Habitat
Matrix:	Not Specified
Fraction:	None
Number of Exceedances:	4
Number of Samples:	4
Data Used to Assess Water Quality:	Data results were obtained through application of the Urban Rapid Trash Assessment (URTA) methodology, developed by the Santa Clara Valley Urban Runoff Pollution Prevention Program. The URTA is a modification of the Rapid Trash Assessment (RTA) developed by the Surface Water Ambient Monitoring Program (SWAMP). The URTA method documents the total number and characteristics of pieces of trash per one hundred feet of stream or shoreline. The trash assessment protocol involves picking up and tallying all of the trash items

	found within the defined boundaries of a site. The tally results for "level of trash" (relating to REC2) and "transportable, persistent, buoyant litter" (relating to WILD) assessment parameters were considered for the listing determination. These results are available for field visits/trash surveys conducted in four locations in October 2004 and March 2005 according to the Urban Rapid Trash Assessment (URTA) methodology. This waterbody had "transportable, Persistent, Buoyant Litter" parameter scores in the marginal urban and poor category (indicating threat to Wildlife Habitat beneficial uses) at four locations and on two different dates.
Data Reference(s):	Memo: Development of Urban Rapid Trash Assessment Protocol. March 13, 2006 Spreadsheet of Urban Rapid Trash Assessment (URTA) data collected by the Santa Clara Valley Urban Runoff Pollution Prevention Program, 2004-2007
Water Quality Objective/Criterion:	Basin Plan prohibits discharge of "Rubbish, refuse, bark, sawdust, or other solid wastes into surface waters or at any place where they would contact or where they would be eventually transported to surface waters, including flood plain areas." Basin Plan has a narrative objective for floating material, "Waters shall not contain floating material, including solids, liquids, foams, and scum, in concentrations that cause nuisance or adversely affect beneficial uses." Basin Plan has a narrative objective for settleable material, "Waters shall not contain substances in concentrations that result in the deposition of material that cause nuisance or adversely affect beneficial uses."
Water Quality Objective/Criterion Reference(s):	San Francisco Bay Basin (Region 2) Water Quality Control Plan (Basin Plan)
Evaluation Guideline:	If the URTA Parameter 3 (Transportable, Persistent, Buoyant Litter) is in the marginal urban or poor condition category (scores 0-10), then WILD is not supported. The URTA defines marginal urban or poor condition for this parameter as follows. this level of trash is a "medium prevalence (76-200 pieces)" or "large amount (>200 pieces) of transportable, persistent, buoyant litter such as: hard or soft plastics, styrofoam, balloons, cigarette butts". These types of items are all detrimental to aquatic life.
Evaluation Guideline Reference(s):	Memo: Development of Urban Rapid Trash Assessment Protocol. March 13, 2006
Spatial Representation:	URTA data were collected for this waterbody in four locations in 2004 and 2005.
Temporal Representation:	URTA data were collected for this waterbody on two separate dates, October 2004 and March 2005.
Environmental Conditions:	
QAPP Information:	Data were collected by trained staff in accordance with URTA methodology developed by SCVURPPP and are deemed reliable and of sufficient quality on which to base listing determinations.

Damon Slough — Trash

Decision ID: 7638

Pollutant: Trash

Status: Decision in Progress

Weight of Evidence: This pollutant is being considered for placement on the section 303(d) list under section 3.11 of the Listing Policy. Under section 3.11, listing may be proposed based on the situation-specific weight of evidence.

Two lines of evidence are available in the administrative record to assess this pollutant. Both lines of evidence involve inspection of photographic evidence by Regional Water Board staff trained to conduct the Rapid Trash Assessment (RTA) methodology. The staff inspected these photos and applied the RTA methodology both to develop Category 1 (Level of Trash, linked to non-contact beneficial use) and Category 3 (Threat to Aquatic Life, linked to wildlife habitat beneficial use) scores for each photograph.
Based on the readily available photographic evidence for this waterbody, the weight of evidence indicates that there is sufficient justification available in favor of placing this water segment-pollutant combination to the section 303(d) list in the Water Quality Limited Segments category.

This conclusion is based on the staff findings that:

1. Photographic evidence has been evaluated that supports this decision.

2. Applying the Rapid Trash Assessment methodology to the photographic evidence suggests that this waterbody had "level of trash" parameter scores in the poor category (indicating impairment of non-contact water recreational beneficial uses) at three locations on nine different dates. This waterbody also had "threat to aquatic life" parameter scores in the poor category (indicating threat to Wildlife Habitat beneficial uses) at three different locations on ten different dates.

3. This waterbody is considered impaired by trash because there were exceedances of the evaluation guidelines (poor condition category for the trash assessment metrics) in more than one location or on more than one date.

4. The data used satisfy the data quality requirements of section 6.1.4 of the Policy.

5. The data used satisfy the data quantity requirements of section 6.1 of the Policy.

Lines of Evidence:

LOE ID:	5407
Pollutant:	Trash
Subgroup:	Pollutant-Nuisance
Beneficial Use:	Wildlife Habitat
Matrix:	Not Specified

Fraction:	None
Number of Exceedances:	16
Number of Samples:	16
Data Used to Assess Water Quality:	Data available consist of photographic evidence of trash and interpretation of these photos by an experienced trash assessment specialist. Each photograph was analyzed to establish the RTA score for the "level of trash" and "threat to aquatic life" parameters, which relate to impairment of REC2 and WILD, respectively. Only those photos clear enough to establish these RTA scores were relied on for the listing determination. These results are available for the following dates and locations on Damon Slough: Damon Slough on 12/20/02, 1/1/97, 3/10/99, 12/10/03, 12/16/04, 1/5/05, 12/19/05, 1/11/06, 3/29/06, 4/1/06, and 2/23/07 Coliseum on 12/19/05, 1/11/06, 3/29/06, 4/11/06, and 2/23/07 San Leandro Channel and Bay on 1/5/05 and 1/11/06 This waterbody had threat to aquatic life parameter scores in the poor category (indicating threat to Wildlife Habitat beneficial uses) at three different locations on ten different dates.
Data Reference(s):	Report from Roger James and Larry Kolb containing Trash Photos submitted for consideration in 2008 303(d) listing process Assessment by Matt Cover of Trash Photos (submitted to Region 2 in response to 2008 Data Solicitation) Archive of Trash Photos for Damon Slough submitted for 2008 303(d) list consideration
Water Quality Objective/Criterion:	Basin Plan prohibits discharge of "Rubbish, refuse, bark, sawdust, or other solid wastes into surface waters or at any place where they would contact or where they would be eventually transported to surface waters, including flood plain areas." Basin Plan has a narrative objective for floating material, "Waters shall not contain floating material, including solids, liquids, foams, and scum, in concentrations that cause nuisance or adversely affect beneficial uses." Basin Plan has a narrative objective for settleable material, "Waters shall not contain substances in concentrations that result in the deposition of material that cause nuisance or adversely affect beneficial uses."
Water Quality Objective/Criterion Reference(s):	San Francisco Bay Basin (Region 2) Water Quality Control Plan (Basin Plan)
Evaluation Guideline:	If the Rapid Trash Assessment (RTA) Parameter 1 (Level of Trash) is in the "poor condition category" (scores 0-5), REC2 is not supported. This level of trash "distracts the eye on first glance," making the site unsuitable for recreation. The RTA defines poor condition for this parameter as follows, "trash distracts the eye on first glance. Stream, bank surfaces, and immediate riparian zone contain substantial levels of litter and debris (>100 pieces). Evidence of site being used frequently by people: many cans, bottles, and food wrappers, blankets, clothing." Regional Water Board staff trained in the RTA inspected the available photographic evidence and applied the assessment method to determine the Level of Trash score. If the RTA Parameter 3 (Threat to Aquatic Life) is in the poor condition category (scores 0-5), then WILD is not supported. This level of trash is a "large amount (>50 pieces) of transportable, persistent, buoyant litter" that is detrimental to

	aquatic life. The RTA defines poor condition for this parameter as follows, "large amount (>50 pieces) of transportable, persistent, buoyant litter such as: hard or soft plastics, balloons, Styrofoam, cigarette butts; toxic items such as batteries, lighters, or spray cans; large clumps of yard waste or dumped leaf litter; or large amount (>50 pieces) of settleable glass or metal." Regional Water Board staff trained in the RTA inspected the available photographic evidence and applied the assessment method to determine the Threat to Aquatic Life score.
Evaluation Guideline Reference(s):	A Rapid Trash Assessment Method Applied to Waters of the San Francisco Bay Region:Trash Measurement in Streams
Spatial Representation:	Photographic evidence was analyzed using the RTA methodology for this waterbody for three different locations spanning dates from 2001 through 2007.
Temporal Representation:	Photographic evidence was collected for this waterbody on ten separate dates from 1997 through 2007.
Environmental Conditions:	
QAPP Information:	Assessments of the photographic evidence using the RTA were performed by Regional Water Board staff person who was a co-author of the Rapid Trash Assessment methodology. Assessments based on photographic evidence were only conducted when sufficient reach-scale and close-up photos were available for a site on a specific date. Photos used for the evaluation needed to be numerous enough and clear enough to document the level of trash at the site in a similar way as the assessor would experience during an actual site visit in the field. For example, at a minimum, one reach-scale photograph (showing at least a 100 linear foot section of the waterbody) and two close-up photographs (of representative trash deposits) were required.

LOE ID:	5408
Pollutant:	Trash
Subgroup:	Pollutant-Nuisance
Beneficial Use:	Non-Contact Recreation
Matrix:	Not Specified
Fraction:	None
Number of Exceedances:	12
Number of Samples:	16
Data Used to Assess Water Quality:	Data available consist of photographic evidence of trash and interpretation of these photos by an experienced trash assessment specialist. Each photograph was analyzed to establish the RTA score for the "level of trash" and "threat to aquatic life" parameters, which relate to impairment of REC2 and WILD, respectively. Only those photos clear enough to establish these RTA scores were relied on for the listing determination. These results are available for the following dates and locations on Damon Slough: Damon Slough on 12/20/02, 1/1/97, 3/10/99, 12/10/03, 12/16/04, 1/5/05, 12/19/05, 1/11/06, 3/29/06, 4/1/06, and 2/23/07 Coliseum on 12/19/05, 1/11/06, 3/29/06, 4/11/06, and 2/23/07 San Leandro Channel and Bay on 1/5/05 and 1/11/06 This waterbody had level of trash parameter scores in the poor category (indicating impairment of non-contact water recreational beneficial uses) at three

	locations on nine different dates.
Data Reference(s):	Report from Roger James and Larry Kolb containing Trash Photos submitted for consideration in 2008 303(d) listing process Assessment by Matt Cover of Trash Photos (submitted to Region 2 in response to 2008 Data Solicitation) Archive of Trash Photos for Damon Slough submitted for 2008 303(d) list consideration
Water Quality Objective/Criterion:	Basin Plan prohibits discharge of "Rubbish, refuse, bark, sawdust, or other solid wastes into surface waters or at any place where they would contact or where they would be eventually transported to surface waters, including flood plain areas." Basin Plan has a narrative objective for floating material, "Waters shall not contain floating material, including solids, liquids, foams, and scum, in concentrations that cause nuisance or adversely affect beneficial uses." Basin Plan has a narrative objective for settleable material, "Waters shall not contain substances in concentrations that result in the deposition of material that cause nuisance or adversely affect beneficial uses."
Water Quality Objective/Criterion Reference(s):	San Francisco Bay Basin (Region 2) Water Quality Control Plan (Basin Plan)
Evaluation Guideline:	If the Rapid Trash Assessment (RTA) Parameter 1 (Level of Trash) is in the "poor condition category" (scores 0-5), REC2 is not supported. This level of trash "distracts the eye on first glance," making the site unsuitable for recreation. The RTA defines poor condition for this parameter as follows, "trash distracts the eye on first glance. Stream, bank surfaces, and immediate riparian zone contain substantial levels of litter and debris (>100 pieces). Evidence of site being used frequently by people: many cans, bottles, and food wrappers, blankets, clothing." Regional Water Board staff trained in the RTA inspected the available photographic evidence and applied the assessment method to determine the Level of Trash score. If the RTA Parameter 3 (Threat to Aquatic Life) is in the poor condition category (scores 0-5), then WILD is not supported. This level of trash is a "large amount (>50 pieces) of transportable, persistent, buoyant litter" that is detrimental to aquatic life. The RTA defines poor condition for this parameter as follows, "large amount (>50 pieces) of transportable, persistent, buoyant litter such as: hard or soft plastics, balloons, Styrofoam, cigarette butts; toxic items such as batteries, lighters, or spray cans; large clumps of yard waste or dumped leaf litter; or large amount (>50 pieces) of settleable glass or metal." Regional Water Board staff trained in the RTA inspected the available photographic evidence and applied the assessment method to determine the Threat to Aquatic Life score.
Evaluation Guideline Reference(s):	A Rapid Trash Assessment Method Applied to Waters of the San Francisco Bay Region:Trash Measurement in Streams
Spatial Representation:	Photographic evidence was analyzed using the RTA methodology for this waterbody for three different locations spanning dates from 2001 through 2007.
Temporal Representation:	Photographic evidence was collected for this waterbody on ten separate dates from 1997 through 2007.
Environmental Conditions:	
QAPP Information:	Assessments of the photographic evidence using the RTA were performed by Regional Water Board staff person who was a co-author of the Rapid Trash Assessment methodology.

Assessments based on photographic evidence were only conducted when sufficient reach-scale and close-up photos were available for a site on a specific date. Photos used for the evaluation needed to be numerous enough and clear enough to document the level of trash at the site in a similar way as the assessor would experience during an actual site visit in the field. For example, at a minimum, one reach-scale photograph (showing at least a 100 linear foot section of the waterbody) and two close-up photographs (of representative trash deposits) were required.

Grayson Creek — Trash

Decision ID: 7643

Pollutant: Trash
Status: Decision in Progress
Weight of Evidence: This pollutant is being considered for placement on the section 303(d) list under section 3.11 of the Listing Policy. Under section 3.11, listing may be proposed based on the situation-specific weight of evidence.

One line of evidence is available in the administrative record to assess this pollutant. The line of evidence consists of inspection of photographic evidence by Regional Water Board staff trained to conduct the Rapid Trash Assessment (RTA) methodology. The staff inspected these photos and applied the RTA methodology to develop Category 3 (Threat to Aquatic Life) scores for each photograph.

Based on the readily available photographic evidence for this waterbody, the weight of evidence indicates that there is sufficient justification available in favor of placing this water segment-pollutant combination to the section 303(d) list in the Water Quality Limited Segments category.

This conclusion is based on the staff findings that:

1. Photographic evidence has been evaluated that supports this decision.

2. Applying the Rapid Trash Assessment methodology to the photographic evidence suggests that this waterbody had "threat to aquatic life" parameter scores in the poor category (indicating threat to Wildlife Habitat beneficial uses) at two different locations on two different dates.

3. This waterbody is considered impaired by trash because there were exceedances of the evaluation guideline (poor condition category for the trash assessment metric) in more than one location or on more than one date.

4. The data used satisfy the data quality requirements of section 6.1.4 of the Policy.

5. The data used satisfy the data quantity requirements of section 6.1 of the Policy.

Lines of Evidence:

LOE ID: 5409
Pollutant: Trash
Subgroup: Pollutant-Nuisance
Beneficial Use: Wildlife Habitat
Matrix: Not Specified
Fraction: None
Number of Exceedances: 2

Number of Samples:	5
Data Used to Assess Water Quality:	Data available consist of photographic evidence of trash and interpretation of these photos by an experienced trash assessment specialist. Each photograph was analyzed to establish the RTA score for the "level of trash" and "threat to aquatic life" parameters, which relate to impairment of REC2 and WILD, respectively. Only those photos clear enough to establish these RTA scores were relied on for the listing determination. This waterbody had threat to aquatic life parameter scores in the poor category (indicating threat to Wildlife Habitat beneficial uses) at two different locations on two different dates.
Data Reference(s):	Archive of Trash Photos for Alameda Creek submitted for 2008 303(d) list consideration Assessment by Matt Cover of Trash Photos (submitted to Region 2 in response to 2008 Data Solicitation) Archive of Trash Photos for Grayson Creek submitted for 2008 303(d) list consideration
Water Quality Objective/Criterion:	Basin Plan prohibits discharge of "Rubbish, refuse, bark, sawdust, or other solid wastes into surface waters or at any place where they would contact or where they would be eventually transported to surface waters, including flood plain areas." Basin Plan has a narrative objective for floating material, "Waters shall not contain floating material, including solids, liquids, foams, and scum, in concentrations that cause nuisance or adversely affect beneficial uses." Basin Plan has a narrative objective for settleable material, "Waters shall not contain substances in concentrations that result in the deposition of material that cause nuisance or adversely affect beneficial uses."
Water Quality Objective/Criterion Reference(s):	San Francisco Bay Basin (Region 2) Water Quality Control Plan (Basin Plan)
Evaluation Guideline:	If the Rapid Trash Assessment (RTA) Parameter 1 (Level of Trash) is in the "poor condition category" (scores 0-5), REC2 is not supported. This level of trash "distracts the eye on first glance," making the site unsuitable for recreation. The RTA defines poor condition for this parameter as follows, "trash distracts the eye on first glance. Stream, bank surfaces, and immediate riparian zone contain substantial levels of litter and debris (>100 pieces). Evidence of site being used frequently by people: many cans, bottles, and food wrappers, blankets, clothing." Regional Water Board staff trained in the RTA inspected the available photographic evidence and applied the assessment method to determine the Level of Trash score. If the RTA Parameter 3 (Threat to Aquatic Life) is in the poor condition category (scores 0-5), then WILD is not supported. This level of trash is a "large amount (>50 pieces) of transportable, persistent, buoyant litter" that is detrimental to aquatic life. The RTA defines poor condition for this parameter as follows, "large amount (>50 pieces) of transportable, persistent, buoyant litter such as: hard or soft plastics, balloons, Styrofoam, cigarette butts; toxic items such as batteries, lighters, or spray cans; large clumps of yard waste or dumped leaf litter; or large amount (>50 pieces) of settleable glass or metal." Regional Water Board staff trained in the RTA inspected the available photographic evidence and applied the assessment method to determine the Threat to Aquatic Life score.
Evaluation Guideline Reference(s):	A Rapid Trash Assessment Method Applied to Waters of the San Francisco Bay Region:Trash Measurement in Streams
Spatial Representation:	Photographic evidence was analyzed using the RTA methodology for this

	waterbody for five different locations spanning dates from 2006 through 2007. The assessments were conducted at the following locations: Elinora Drive Bridge, trail between Center Ave. and 2nd Ave., Center Ave. Bridge, Pacheco Blvd., and Imhoff Drive Bridge.
Temporal Representation:	Photographic evidence was collected for this waterbody on four separate dates from 2006 and 2007 including: Elinora Drive Bridge on 4/3/2006, 1/4/2007, 2/13/2007 Trail between Center Ave. and 2nd Ave. on 4/3/2006, 12/8/2006, 2/13/2007 Center Ave. Bridge on 2/13/2007 Pacheco Blvd. on 1/4/2007 Imhoff Drive Bridge on 4/3/2006
Environmental Conditions:	
QAPP Information:	Assessments of the photographic evidence using the RTA were performed by Regional Water Board staff person who was a co-author of the Rapid Trash Assessment methodology. Assessments based on photographic evidence were only conducted when sufficient reach-scale and close-up photos were available for a site on a specific date. Photos used for the evaluation needed to be numerous enough and clear enough to document the level of trash at the site in a similar way as the assessor would experience during an actual site visit in the field. For example, at a minimum, one reach-scale photograph (showing at least a 100 linear foot section of the waterbody) and two close-up photographs (of representative trash deposits) were required.

Guadalupe River — Trash

Decision ID: 7660

Pollutant: Trash

Status: Decision in Progress

Weight of Evidence: This pollutant is being considered for placement on the section 303(d) list under section 3.11 of the Listing Policy. Under section 3.11, listing may be proposed based on the situation-specific weight of evidence.

Two lines of evidence are available in the administrative record to assess this pollutant. The first line of evidence concerns the non-contact recreation beneficial use, and the second line of evidence concerns the wildlife habit beneficial use.

Both lines of evidence make use of data from field visits/trash surveys conducted according to the Urban Rapid Trash Assessment (URTA) methodology developed by the Santa Clara Valley Urban Runoff Pollution Prevention Program (SCVURPPP) as well as inspection of photographic evidence by Regional Water Board staff trained to conduct the Rapid Trash Assessment (RTA) methodology. The staff inspected these photos and applied the RTA methodology to develop Category 1 (Level of Trash) and Category 3 (Threat to Aquatic Life) scores for each photograph.

Based on the readily available photographic and trash assessment data for this waterbody, the weight of evidence indicates that there is sufficient justification available in favor of placing this water segment-pollutant combination to the section 303(d) list in the Water Quality Limited Segments category.

This conclusion is based on the staff findings that:

1. Data have been evaluated that supports this decision.

2. The Urban Rapid Trash Assessment methodology results showed that this waterbody had “level of trash” parameter scores in the poor category (indicating impairment of non-contact water recreational beneficial uses) at three locations and on three different dates. This waterbody also had “transportable, Persistent, Buoyant Litter” parameter scores in the marginal urban and poor category (indicating threat to Wildlife Habitat beneficial uses) at four locations and on four different dates.

3. Photographic evidence has been evaluated that supports this decision.

4. Applying the Rapid Trash Assessment methodology to the photographic evidence suggests that this waterbody had “level of trash” parameter scores in the poor category (indicating impairment of non-contact water recreational beneficial uses) at more than five locations on six different dates. This waterbody also had “threat to aquatic life” parameter scores in the poor category (indicating threat to Wildlife Habitat beneficial uses) at more than six different locations on seven different dates.

5. This waterbody is considered impaired by trash because there were exceedances of the evaluation guidelines (poor condition category for the trash assessment

metrics) in more than one location or on more than one date.

6. The data used satisfy the data quality requirements of section 6.1.4 of the Policy.

7. The data used satisfy the data quantity requirements of section 6.1 of the Policy.

Lines of Evidence:

LOE ID:	5478
Pollutant:	Trash
Subgroup:	Pollutant-Nuisance
Beneficial Use:	Non-Contact Recreation
Matrix:	Not Specified
Fraction:	None
Number of Exceedances:	5
Number of Samples:	8
Data Used to Assess Water Quality:	Data results were obtained through application of the Urban Rapid Trash Assessment (URTA) methodology, developed by the Santa Clara Valley Urban Runoff Pollution Prevention Program. The URTA is a modification of the Rapid Trash Assessment (RTA) developed by the Surface Water Ambient Monitoring Program (SWAMP). The URTA method documents the total number and characteristics of pieces of trash per one hundred feet of stream or shoreline. The trash assessment protocol involves picking up and tallying all of the trash items found within the defined boundaries of a site. The tally results for "level of trash" (relating to REC2) and "transportable, persistent, buoyant litter" (relating to WILD) assessment parameters were considered for the listing determination. These results are available for field visits/trash surveys conducted in September 2004, an unknown date in 2005, and November 2006 according to the Urban Rapid Trash Assessment (URTA) methodology. This waterbody had "level of trash" parameter scores in the poor category (indicating impairment of non-contact water recreational beneficial uses) at three locations and on three different dates.
Data Reference(s):	Memo: Development of Urban Rapid Trash Assessment Protocol. March 13, 2006 Spreadsheet of Urban Rapid Trash Assessment (URTA) data collected by the Santa Clara Valley Urban Runoff Pollution Prevention Program, 2004-2007
Water Quality Objective/Criterion:	Basin Plan prohibits discharge of "Rubbish, refuse, bark, sawdust, or other solid wastes into surface waters or at any place where they would contact or where they would be eventually transported to surface waters, including flood plain areas." Basin Plan has a narrative objective for floating material, "Waters shall not contain floating material, including solids, liquids, foams, and scum, in concentrations that cause nuisance or adversely affect beneficial uses." Basin Plan has a narrative objective for settleable material, "Waters shall not contain substances in concentrations that result in the deposition of material that cause nuisance or adversely affect beneficial uses."
Water Quality Objective/Criterion	San Francisco Bay Basin (Region 2) Water Quality Control Plan (Basin Plan)

Reference(s):	
Evaluation Guideline:	If the Urban Rapid Trash Assessment (URTA) Parameter 1 (Level of Trash) is in the "poor condition category" (scores 0-5), REC2 is not supported. The URTA defines poor condition for this parameter as a level of trash that "distracts the eye on first glance. Stream, bank surfaces, and immediate riparian zone contain substantial levels of litter and debris. Evidence of site being used frequently by people: many cans, bottles, and food wrappers, blankets, clothing."
Evaluation Guideline Reference(s):	Memo: Development of Urban Rapid Trash Assessment Protocol. March 13, 2006
Spatial Representation:	URTA data were collected for this waterbody in five locations in 2004 through 2006.
Temporal Representation:	URTA data were collected for this waterbody on five separate dates from September 2004 through November 2006.
Environmental Conditions:	
QAPP Information:	Data were collected by trained staff in accordance with URTA methodology developed by SCVURPPP and are deemed reliable and of sufficient quality on which to base listing determinations.
QAPP Information Reference(s):	

LOE ID:	5480
Pollutant:	Trash
Subgroup:	Pollutant-Nuisance
Beneficial Use:	Non-Contact Recreation
Matrix:	Not Specified
Fraction:	None
Number of Exceedances:	7
Number of Samples:	8
Data Used to Assess Water Quality:	Data available consist of photographic evidence of trash and interpretation of these photos by an experienced trash assessment specialist. Each photograph was analyzed to establish the RTA score for the "level of trash" and "threat to aquatic life" parameters, which relate to impairment of REC2 and WILD, respectively. Only those photos clear enough to establish these RTA scores were relied on for the listing determination. These results are available for the following Guadalupe River locations: Multiple locations on 2/1/2004, 2/18/2005, and 2/2/2006 San Jose Airport on 2/18/2005 Alma Ave. on 2/24/2007 Malone Ave. on 2/24/2007 Between Tasman and Trimble on 2/19/2007 75 yards upstream of I880 on 1/22/2007 At the Montague Expressway on 5/8/2006 This waterbody had "level of trash" parameter scores in the poor category (indicating impairment of non-contact water recreational beneficial uses) at five locations on six different dates.
Data Reference(s):	Report from Roger James and Larry Kolb containing Trash Photos submitted for consideration in 2008 303(d) listing process

	Assessment by Matt Cover of Trash Photos (submitted to Region 2 in response to 2008 Data Solicitation)
	Archive of Trash Photos for Guadalupe River submitted for 2008 303(d) list consideration
Water Quality Objective/Criterion:	Basin Plan prohibits discharge of "Rubbish, refuse, bark, sawdust, or other solid wastes into surface waters or at any place where they would contact or where they would be eventually transported to surface waters, including flood plain areas." Basin Plan has a narrative objective for floating material, "Waters shall not contain floating material, including solids, liquids, foams, and scum, in concentrations that cause nuisance or adversely affect beneficial uses." Basin Plan has a narrative objective for settleable material, "Waters shall not contain substances in concentrations that result in the deposition of material that cause nuisance or adversely affect beneficial uses."
Water Quality Objective/Criterion Reference(s):	San Francisco Bay Basin (Region 2) Water Quality Control Plan (Basin Plan)
Evaluation Guideline:	If the Rapid Trash Assessment (RTA) Parameter 1 (Level of Trash) is in the "poor condition category" (scores 0-5), REC2 is not supported. This level of trash "distracts the eye on first glance," making the site unsuitable for recreation. The RTA defines poor condition for this parameter as follows, "trash distracts the eye on first glance. Stream, bank surfaces, and immediate riparian zone contain substantial levels of litter and debris (>100 pieces). Evidence of site being used frequently by people: many cans, bottles, and food wrappers, blankets, clothing." Regional Water Board staff trained in the RTA inspected the available photographic evidence and applied the assessment method to determine the Level of Trash score.
Evaluation Guideline Reference(s):	A Rapid Trash Assessment Method Applied to Waters of the San Francisco Bay Region:Trash Measurement in Streams
Spatial Representation:	Photographic evidence was analyzed using the RTA methodology for this waterbody for more than seven different locations spanning dates from 2004 through 2007.
Temporal Representation:	Photographic evidence was collected for this waterbody on seven separate dates from 2004 through 2007.
Environmental Conditions:	
QAPP Information:	Assessments of the photographic evidence using the RTA were performed by Regional Water Board staff person who was a co-author of the Rapid Trash Assessment methodology. Assessments based on photographic evidence were only conducted when sufficient reach-scale and close-up photos were available for a site on a specific date. Photos used for the evaluation needed to be numerous enough and clear enough to document the level of trash at the site in a similar way as the assessor would experience during an actual site visit in the field. For example, at a minimum, one reach-scale photograph (showing at least a 100 linear foot section of the waterbody) and two close-up photographs (of representative trash deposits) were required.

LOE ID:	5477
Pollutant:	Trash
Subgroup:	Pollutant-Nuisance
Beneficial Use:	Wildlife Habitat
Matrix:	Not Specified
Fraction:	None
Number of Exceedances:	7
Number of Samples:	8
Data Used to Assess Water Quality:	Data results were obtained through application of the Urban Rapid Trash Assessment (URTA) methodology, developed by the Santa Clara Valley Urban Runoff Pollution Prevention Program. The URTA is a modification of the Rapid Trash Assessment (RTA) developed by the Surface Water Ambient Monitoring Program (SWAMP). The URTA method documents the total number and characteristics of pieces of trash per one hundred feet of stream or shoreline. The trash assessment protocol involves picking up and tallying all of the trash items found within the defined boundaries of a site. The tally results for "level of trash" (relating to REC2) and "transportable, persistent, buoyant litter" (relating to WILD) assessment parameters were considered for the listing determination. These results are available for field visits/trash surveys conducted in September 2004, an unknown date in 2005, and November 2006 according to the Urban Rapid Trash Assessment (URTA) methodology. This waterbody had "transportable, Persistent, Buoyant Litter" parameter scores in the marginal urban and poor category (indicating threat to Wildlife Habitat beneficial uses) at four locations and on four different dates.
Data Reference(s):	Memo: Development of Urban Rapid Trash Assessment Protocol. March 13, 2006 Spreadsheet of Urban Rapid Trash Assessment (URTA) data collected by the Santa Clara Valley Urban Runoff Pollution Prevention Program, 2004-2007
Water Quality Objective/Criterion:	Basin Plan prohibits discharge of "Rubbish, refuse, bark, sawdust, or other solid wastes into surface waters or at any place where they would contact or where they would be eventually transported to surface waters, including flood plain areas." Basin Plan has a narrative objective for floating material, "Waters shall not contain floating material, including solids, liquids, foams, and scum, in concentrations that cause nuisance or adversely affect beneficial uses." Basin Plan has a narrative objective for settleable material, "Waters shall not contain substances in concentrations that result in the deposition of material that cause nuisance or adversely affect beneficial uses."
Water Quality Objective/Criterion Reference(s):	San Francisco Bay Basin (Region 2) Water Quality Control Plan (Basin Plan)
Evaluation Guideline:	If the URTA Parameter 3 (Transportable, Persistent, Buoyant Litter) is in the marginal urban or poor condition category (scores 0-10), then WILD is not supported. The URTA defines marginal urban or poor condition for this parameter as follows. this level of trash is a "medium prevalence (76-200 pieces)" or "large amount (>200 pieces) of transportable, persistent, buoyant litter such as: hard or soft plastics, styrofoam, balloons, cigarette butts". These types of items are all detrimental to aquatic life.
Evaluation Guideline Reference(s):	Memo: Development of Urban Rapid Trash Assessment Protocol. March 13, 2006

Spatial Representation:	URTA data were collected for this waterbody in five locations in 2004 through 2006.
Temporal Representation:	URTA data were collected for this waterbody on five separate dates from September 2004 through November 2006.
Environmental Conditions:	
QAPP Information:	Data were collected by trained staff in accordance with URTA methodology developed by SCVURPPP and are deemed reliable and of sufficient quality on which to base listing determinations.

LOE ID:	5479
Pollutant:	Trash
Subgroup:	Pollutant-Nuisance
Beneficial Use:	Wildlife Habitat
Matrix:	Not Specified
Fraction:	None
Number of Exceedances:	8
Number of Samples:	8
Data Used to Assess Water Quality:	Data available consist of photographic evidence of trash and interpretation of these photos by an experienced trash assessment specialist. Each photograph was analyzed to establish the RTA score for the "level of trash" and "threat to aquatic life" parameters, which relate to impairment of REC2 and WILD, respectively. Only those photos clear enough to establish these RTA scores were relied on for the listing determination. These results are available for the following Guadalupe River locations: Multiple locations on 2/1/2004, 2/18/2005, and 2/2/2006 San Jose Airport on 2/18/2005 Alma Ave. on 2/24/2007 Malone Ave. on 2/24/2007 Between Tasman and Trimble on 2/19/2007 75 yards upstream of I880 on 1/22/2007 At the Montague Expressway on 5/8/2006 This waterbody had "threat to aquatic life" parameter scores in the poor category (indicating threat to Wildlife Habitat beneficial uses) at more than six different locations on seven different dates.
Data Reference(s):	Report from Roger James and Larry Kolb containing Trash Photos submitted for consideration in 2008 303(d) listing process Assessment by Matt Cover of Trash Photos (submitted to Region 2 in response to 2008 Data Solicitation) Archive of Trash Photos for Guadalupe River submitted for 2008 303(d) list consideration
Water Quality Objective/Criterion:	Basin Plan prohibits discharge of "Rubbish, refuse, bark, sawdust, or other solid wastes into surface waters or at any place where they would contact or where they would be eventually transported to surface waters, including flood plain areas." Basin Plan has a narrative objective for floating material, "Waters shall not contain floating material, including solids, liquids, foams, and scum, in concentrations that cause nuisance or adversely affect beneficial uses."

	Basin Plan has a narrative objective for settleable material, "Waters shall not contain substances in concentrations that result in the deposition of material that cause nuisance or adversely affect beneficial uses."
Water Quality Objective/Criterion Reference(s):	San Francisco Bay Basin (Region 2) Water Quality Control Plan (Basin Plan)
Evaluation Guideline:	If the RTA Parameter 3 (Threat to Aquatic Life) is in the poor condition category (scores 0-5), then WILD is not supported. This level of trash is a "large amount (>50 pieces) of transportable, persistent, buoyant litter" that is detrimental to aquatic life. The RTA defines poor condition for this parameter as follows, "large amount (>50 pieces) of transportable, persistent, buoyant litter such as: hard or soft plastics, balloons, Styrofoam, cigarette butts; toxic items such as batteries, lighters, or spray cans; large clumps of yard waste or dumped leaf litter; or large amount (>50 pieces) of settleable glass or metal." Regional Water Board staff trained in the RTA inspected the available photographic evidence and applied the assessment method to determine the Threat to Aquatic Life score.
Evaluation Guideline Reference(s):	A Rapid Trash Assessment Method Applied to Waters of the San Francisco Bay Region:Trash Measurement in Streams
Spatial Representation:	Photographic evidence was analyzed using the RTA methodology for this waterbody for more than seven different locations spanning dates from 2004 through 2007.
Temporal Representation:	Photographic evidence was collected for this waterbody on seven separate dates from 2004 through 2007.
Environmental Conditions:	
QAPP Information:	Assessments of the photographic evidence using the RTA were performed by Regional Water Board staff person who was a co-author of the Rapid Trash Assessment methodology. Assessments based on photographic evidence were only conducted when sufficient reach-scale and close-up photos were available for a site on a specific date. Photos used for the evaluation needed to be numerous enough and clear enough to document the level of trash at the site in a similar way as the assessor would experience during an actual site visit in the field. For example, at a minimum, one reach-scale photograph (showing at least a 100 linear foot section of the waterbody) and two close-up photographs (of representative trash deposits) were required.

Kirker Creek

Pyrethroids | Trash

Decision ID: 7583

Pollutant: Pyrethroids

Status: Decision in Progress

Weight of Evidence: This pollutant is being considered for listing under sections 3.6 of the Listing Policy. Under section 3.6 a single line of evidence is necessary to assess listing status. Four lines of evidence are available in the administrative record to assess this pollutant. This water body experience sediment and water toxicity. It has been documented that high concentrations of pyrethroids contribute or are the most likely cause of the toxic effect.

Based on the readily available data for this waterbody, the weight of evidence indicates that there is sufficient justification available in favor of adding this water segment-pollutant combination to the section 303(d) list in the Water Quality Limited Segments category.

This conclusion is based on the staff findings that:

1. The data concerning current conditions and supporting the listing decision satisfy the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfy the data quantity requirements of section 6.1.5 of the Policy.
3. Four sediment samples exhibited significant amphipod toxicity and the benthic community is considered to be degraded. The number of samples with detected significant sediment and water toxicity exceeds the allowable frequency listed in Table 3.1 of the Listing Policy. An additional analysis of toxicity units (TU) indicates that the likely cause of observed sediment toxicity is pyrethroid pesticides.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Lines of Evidence:

LOE ID:	5341
Pollutant:	Sediment Toxicity
Subgroup:	Pollutant-Sediment
Beneficial Use:	Warm Freshwater Habitat
Aquatic Life Use:	Unknown
Matrix:	Sediment
Fraction:	None
Number of Exceedances:	1
Number of Samples:	1

Data Used to Assess Water Quality:	Data used to evaluate sediment toxicity comprise one sediment sample collected by the SWAMP in 2003. The sample displayed statistically significant toxicity during the 10-day Hyalella azteca test and exhibited 100% mortality.
Data Reference(s):	Water Quality Monitoring and Bioassessment in Four San Francisco Bay Region Watersheds in 2003-2004: Kirker Creek, Mt. Diablo Creek, Petaluma River, and San Mateo Creek. Surface Water Monitoring Program, San Francisco Bay Regional Water Quality Control Board, Oakland. CA
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances that are lethal to or that produce other detrimental responses in aquatic organisms. There shall be no chronic toxicity in ambient waters. Chronic toxicity is a detrimental biological effect on growth rate, reproduction, fertilization success, larval development, population abundance, community composition, or any other relevant measure of the health of an organism, population, or community.
Water Quality Objective/Criterion Reference(s):	San Francisco Bay Basin (Region 2) Water Quality Control Plan (Basin Plan)
Evaluation Guideline:	Sediment toxicity was evaluated according to the SWAMP methodology. Sample toxicity was determined by comparing mean organism response in samples and in negative controls. Statistical evaluation ($\alpha = 0.05$) and a default threshold of 80% of the control value were used to establish whether the sediment exhibited significant toxicity adversely impacting aquatic organisms.
Evaluation Guideline Reference(s):	Thursby, G.B., Heltshe, J. and K.J. Scott. 1997. Revised approach to toxicity test acceptability criteria using a statistical performance assessment. Environmental Toxicology and Chemistry, vol. 16, No. 6, pp 1322-1329.
Spatial Representation:	Sample was collected at the lower part of the Kirker Creek watershed.
Temporal Representation:	Sample was collected during spring season of 2003.
Environmental Conditions:	Data are representative of the lower watershed (floodway) with the monitoring site located below predominantly residential and industrial areas.
QAPP Information:	Samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB 2002).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. December 2002 (1st version)

LOE ID:	5348
Pollutant:	Pyrethroids
Subgroup:	Pollutant-Sediment
Beneficial Use:	Warm Freshwater Habitat
Aquatic Life Use:	Unknown
Matrix:	Sediment
Fraction:	None
Number of Exceedances:	3
Number of Samples:	3
Data Used to Assess Water Quality:	Amweg et al. (2006) interpreted results of toxicity testing and sediment pyrethroid concentrations of seven compounds in three samples from Kirker Creek. Total pyrethroid concentrations at Kirker Creek samples were more than 50% higher than the concentrations detected in other six East Bay area creeks that were studied. The pyrethroid concentrations in Kirker Creek samples ranged from 66.1 to 186.2 ng/g. Also the spring sample contained the highest concentration of any

	single pyrethroid (deltamethrin) measured reaching the value of 57 ng/g. The Kirker Creek samples had estimated TUs within the range of 5.67-7.2. Based on this analysis the study concluded that there was good evidence for the role of pyrethroids in the observed toxicity.
Data Reference(s):	Pyrethroid insecticides and sediment toxicity in urban creeks from California and Tennessee. Environmental Science and Technology, 40(5): 1700-1706
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances that are lethal to or that produce other detrimental responses in aquatic organisms. There shall be no chronic toxicity in ambient waters. Chronic toxicity is a detrimental biological effect on growth rate, reproduction, fertilization success, larval development, population abundance, community composition, or any other relevant measure of the health of an organism, population, or community.
Water Quality Objective/Criterion Reference(s):	San Francisco Bay Basin (Region 2) Water Quality Control Plan (Basin Plan)
Evaluation Guideline:	Pyrethroid oncentration data and analysis of toxicity units (TU) were used to determine whether pyrethroids could be linked to the observed toxicity to Hyalella azteca. Amweg et al. (2006) determined that samples with less than 1 TU were nontoxic and those with TU grater than 2 were consistently toxic.
Evaluation Guideline Reference(s):	Pyrethroid insecticides and sediment toxicity in urban creeks from California and Tennessee. Environmental Science and Technology, 40(5): 1700-1706
Spatial Representation:	Data were collected at sampling locations at the lower part of Kirker Creek.
Temporal Representation:	Samples were collected during spring and summer seasons of 2004. The last sampling event (late October 2004) occurred after the first rain of the season to capture the potential effects of dry season pesticide use.
Environmental Conditions:	Data are representative of the lower watershed (floodway) with the monitoring site located below predominantly residential and industrial areas.
QAPP Information:	Pyrethroid Insecticides and Sediment Toxicity in Urban Creeks from California and Tennessee, (Amweg et al., 2006).
QAPP Information Reference(s):	Pyrethroid insecticides and sediment toxicity in urban creeks from California and Tennessee. Environmental Science and Technology, 40(5): 1700-1706

LOE ID:	5345
Pollutant:	Sediment Toxicity
Subgroup:	Pollutant-Sediment
Beneficial Use:	Warm Freshwater Habitat
Aquatic Life Use:	Unknown
Matrix:	Sediment
Fraction:	None
Number of Exceedances:	3
Number of Samples:	3
Data Used to Assess Water Quality:	Data used to evaluate sediment toxicity comprise three sediment samples collected in 2004 to determine pyrethroids toxicity in urban-dominated creeks as described in Amweg et al. (2006). All samples displayed statistically significant toxicity during the 10-day Hyalella azteca test and showed the highest mortality rates among all seven creeks studied in the East Bay area.
Data Reference(s):	Pyrethroid insecticides and sediment toxicity in urban creeks from California and

	Tennessee. Environmental Science and Technology, 40(5): 1700-1706
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances that are lethal to or that produce other detrimental responses in aquatic organisms. There shall be no chronic toxicity in ambient waters. Chronic toxicity is a detrimental biological effect on growth rate, reproduction, fertilization success, larval development, population abundance, community composition, or any other relevant measure of the health of an organism, population, or community.
Water Quality Objective/Criterion Reference(s):	San Francisco Bay Basin (Region 2) Water Quality Control Plan (Basin Plan)
Evaluation Guideline:	Sample toxicity was determined by comparing mean organism response in samples and in negative controls. Statistical evaluation ($\alpha = 0.05$) and a default threshold of 80% of the control value were used to establish whether the sediment exhibited significant toxicity adversely impacting aquatic organisms.
Evaluation Guideline Reference(s):	Thursby, G.B., Heltshe, J. and K.J. Scott. 1997. Revised approach to toxicity test acceptability criteria using a statistical performance assessment. Environmental Toxicology and Chemistry, vol. 16, No. 6, pp 1322-1329.
Spatial Representation:	Data were collected at sampling locations at the lower part of Kirker Creek.
Temporal Representation:	Samples were collected during spring and summer seasons of 2004. The last sampling event (late October 2004) occurred after the first rain of the season to capture the potential effects of dry season pesticide use.
Environmental Conditions:	Data are representative of the lower watershed (floodway) with the monitoring site located below predominantly residential and industrial areas.
QAPP Information:	Samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB 2002).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. December 2002 (1st version)

LOE ID:	5340
Pollutant:	Toxicity
Subgroup:	Pollutant-Water
Beneficial Use:	Warm Freshwater Habitat
Matrix:	Water
Fraction:	None
Number of Exceedances:	2
Number of Samples:	5
Data Used to Assess Water Quality:	Five samples were collected in 2003 to evaluate water toxicity. Two samples collected during winter wet season were acutely toxic to Ceridaphnia with one sample causing 100% mortality. Selenastrum growth was significantly lower than the control in four out of five samples. On average all samples displayed statistically significant water column toxicity at least to one of the test organisms.
Data Reference(s):	Water Quality Monitoring and Bioassessment in Four San Francisco Bay Region Watersheds in 2003-2004: Kirker Creek, Mt. Diablo Creek, Petaluma River, and San Mateo Creek. Surface Water Monitoring Program, San Francisco Bay Regional Water Quality Control Board, Oakland. CA
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances that are lethal to or that produce other detrimental responses in aquatic organisms.

	There shall be no chronic toxicity in ambient waters. Chronic toxicity is a detrimental biological effect on growth rate, reproduction, fertilization success, larval development, population abundance, community composition, or any other relevant measure of the health of an organism, population, or community.
Water Quality Objective/Criterion Reference(s):	San Francisco Bay Basin (Region 2) Water Quality Control Plan (Basin Plan)
Evaluation Guideline:	Water toxicity was evaluated according to the SWAMP methodology. The U.S.EPA whole effluent toxicity protocol (U.S.EPA 1994) was used to test the effect of water samples on three freshwater test organisms. Statistical evaluation ($\alpha = 0.05$) and a default threshold of 80% of the control value were used to establish whether water exhibited significant toxicity adversely impacting aquatic organisms.
Evaluation Guideline Reference(s):	Thursby, G.B., Heltshe, J. and K.J. Scott. 1997. Revised approach to toxicity test acceptability criteria using a statistical performance assessment. Environmental Toxicology and Chemistry, vol. 16, No. 6, pp 1322-1329. Short-Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms. EPA/600/4-91/002. Third Edition. July 1994
Spatial Representation:	Data were collected at two sampling locations: 1) just below the grazed rangeland in the upper reach of the Creek and 2) at the floodway area draining highly urbanized and industrial parts of the Kirker Creek watershed.
Temporal Representation:	Samples were collected during spring, summer and winter wet seasons of 2003.
Environmental Conditions:	
QAPP Information:	Samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB 2002).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. December 2002 (1st version)

Decision ID:	7644
Pollutant:	Trash
Status:	Decision in Progress
Weight of Evidence:	This pollutant is being considered for placement on the section 303(d) list under section 3.11 of the Listing Policy. Under section 3.11, listing may be proposed based on the situation-specific weight of evidence. One line of evidence is available in the administrative record to assess this pollutant. The line of evidence consists of data from field visits/trash surveys conducted according to the Rapid Trash Assessment (RTA) methodology. Based on the readily available trash assessment data for this waterbody, the weight of evidence indicates that there is sufficient justification available in favor of placing this water segment-pollutant combination to the section 303(d) list in the Water Quality Limited Segments category.

This conclusion is based on the staff findings that:

1. Data have been evaluated that supports this decision.

2. The Rapid Trash Assessment methodology results showed that this waterbody had "threat to aquatic life" parameter scores in the poor category (indicating threat to Wildlife Habitat beneficial uses) at two different locations on two different dates.

3. This waterbody is considered impaired by trash because there were exceedances of the evaluation guideline (poor condition category for the trash assessment metric) in more than one location or on more than one date.

4. The data used satisfy the data quality requirements of section 6.1.4 of the Policy.

5. The data used satisfy the data quantity requirements of section 6.1 of the Policy.

Lines of Evidence:

LOE ID:	5410
Pollutant:	Trash
Subgroup:	Pollutant-Nuisance
Beneficial Use:	Wildlife Habitat
Matrix:	Not Specified
Fraction:	None
Number of Exceedances:	5
Number of Samples:	6
Data Used to Assess Water Quality:	Data results were obtained through application the RTA methodology, developed by the Surface Water Ambient Monitoring Program (SWAMP). The RTA documents the total number and characteristics of pieces of trash per one hundred feet of stream or shoreline. The trash assessment protocol involves picking up and tallying all of the trash items found within the defined boundaries of a site. The tally results for "level of trash" (relating to REC2) and "threat to aquatic life" (relating to WILD) assessment parameters were considered for the listing determination. These results are available for field visits/trash surveys conducted in March and July 2003, and February 2004 according to the Rapid Trash Assessment methodology. This waterbody had "threat to aquatic life" parameter scores in the poor category (indicating threat to Wildlife Habitat beneficial uses) at two different locations on two different dates.
Data Reference(s):	A Rapid Trash Assessment Method Applied to Waters of the San Francisco Bay Region:Trash Measurement in Streams Rapid Trash Assessment (RTA) data collected by the SF Bay Region Surface Water Ambient Monitoring Program from 2002-2005 and method description
Water Quality Objective/Criterion:	Basin Plan prohibits discharge of "Rubbish, refuse, bark, sawdust, or other solid wastes into surface waters or at any place where they would contact or where they would be eventually transported to surface waters, including flood plain areas."

	Basin Plan has a narrative objective for floating material, "Waters shall not contain floating material, including solids, liquids, foams, and scum, in concentrations that cause nuisance or adversely affect beneficial uses." Basin Plan has a narrative objective for settleable material, "Waters shall not contain substances in concentrations that result in the deposition of material that cause nuisance or adversely affect beneficial uses."
Water Quality Objective/Criterion Reference(s):	San Francisco Bay Basin (Region 2) Water Quality Control Plan (Basin Plan)
Evaluation Guideline:	If the RTA Parameter 3 (Threat to Aquatic Life) is in the poor condition category (scores 0-5), then WILD is not supported. This level of trash is a "large amount (>50 pieces) of transportable, persistent, buoyant litter" that is detrimental to aquatic life. The RTA defines poor condition for this parameter as follows, "large amount (>50 pieces) of transportable, persistent, buoyant litter such as: hard or soft plastics, balloons, Styrofoam, cigarette butts; toxic items such as batteries, lighters, or spray cans; large clumps of yard waste or dumped leaf litter; or large amount (>50 pieces) of settleable glass or metal."
Evaluation Guideline Reference(s):	A Rapid Trash Assessment Method Applied to Waters of the San Francisco Bay Region:Trash Measurement in Streams
Spatial Representation:	RTA data were collected for this waterbody in two different locations in 2003 and 2004.
Temporal Representation:	RTA data were collected for this waterbody in March and July in 2003 and February 2004.
Environmental Conditions:	
QAPP Information:	For RTA trash assessment data to be considered, the data must have been collected by field operators that have received a 2-hour training in the Rapid Trash Assessment methodology.

Matadero Creek — Trash

Decision ID: 7645

Pollutant: Trash
Status: Decision in Progress
Weight of Evidence: This pollutant is being considered for placement on the section 303(d) list under section 3.11 of the Listing Policy. Under section 3.11, listing may be proposed based on the situation-specific weight of evidence.

One line of evidence is available in the administrative record to assess this pollutant. The line of evidence consists of data from field visits/trash surveys conducted according to the Urban Rapid Trash Assessment (URTA) methodology developed by the Santa Clara Valley Urban Runoff Pollution Prevention Program (SCVURPPP).

Based on the readily available trash assessment data for this waterbody, the weight of evidence indicates that there is sufficient justification available in favor of placing this water segment-pollutant combination to the section 303(d) list in the Water Quality Limited Segments category.

This conclusion is based on the staff findings that:

1. Data have been evaluated that supports this decision.
2. The Urban Rapid Trash Assessment methodology results showed that this waterbody had "transportable, Persistent, Buoyant Litter" parameter scores in the marginal urban and poor category (indicating threat to Wildlife Habitat beneficial uses) at two locations and on two different dates in 2005 and 2006.

Lines of Evidence:

LOE ID:	5481
Pollutant:	Trash
Subgroup:	Pollutant-Nuisance
Beneficial Use:	Wildlife Habitat
Matrix:	Not Specified
Fraction:	None
Number of Exceedances:	2
Number of Samples:	5
Data Used to Assess Water Quality:	Data results were obtained through application of the Urban Rapid Trash Assessment (URTA) methodology, developed by the Santa Clara Valley Urban Runoff Pollution Prevention Program. The URTA is a modification of the Rapid Trash Assessment (RTA) developed by the Surface Water Ambient Monitoring Program (SWAMP). The URTA method documents the total number and

	characteristics of pieces of trash per one hundred feet of stream or shoreline. The trash assessment protocol involves picking up and tallying all of the trash items found within the defined boundaries of a site. The tally results for "level of trash" (relating to REC2) and "transportable, persistent, buoyant litter" (relating to WILD) assessment parameters were considered for the listing determination. These results are available for field visits/trash surveys conducted in February 2005, May 2006, June 2006, and November 2006 according to the Urban Rapid Trash Assessment (URTA) methodology
Data Reference(s):	Memo: Development of Urban Rapid Trash Assessment Protocol. March 13, 2006 Spreadsheet of Urban Rapid Trash Assessment (URTA) data collected by the Santa Clara Valley Urban Runoff Pollution Prevention Program, 2004-2007
Water Quality Objective/Criterion:	Basin Plan prohibits discharge of "Rubbish, refuse, bark, sawdust, or other solid wastes into surface waters or at any place where they would contact or where they would be eventually transported to surface waters, including flood plain areas." Basin Plan has a narrative objective for floating material, "Waters shall not contain floating material, including solids, liquids, foams, and scum, in concentrations that cause nuisance or adversely affect beneficial uses." Basin Plan has a narrative objective for settleable material, "Waters shall not contain substances in concentrations that result in the deposition of material that cause nuisance or adversely affect beneficial uses."
Water Quality Objective/Criterion Reference(s):	San Francisco Bay Basin (Region 2) Water Quality Control Plan (Basin Plan)
Evaluation Guideline:	If the URTA Parameter 3 (Transportable, Persistent, Buoyant Litter) is in the marginal urban or poor condition category (scores 0-10), then WILD is not supported. The URTA defines marginal urban or poor condition for this parameter as follows. this level of trash is a "medium prevalence (76-200 pieces)" or "large amount (>200 pieces) of transportable, persistent, buoyant litter such as: hard or soft plastics, styrofoam, balloons, cigarette butts". These types of items are all detrimental to aquatic life.
Evaluation Guideline Reference(s):	Memo: Development of Urban Rapid Trash Assessment Protocol. March 13, 2006
Spatial Representation:	URTA data were collected for this waterbody in two locations in 2005 and 2006.
Temporal Representation:	URTA data were collected for this waterbody on five different dates in 2005 and 2006.
QAPP Information:	Data were collected by trained staff in accordance with URTA methodology developed by SCVURPPP and are deemed reliable and of sufficient quality on which to base listing determinations.

Mt Diablo Creek — Toxicity

Decision ID: 9807

Pollutant: **Toxicity**
Final Listing Decision: **Decision in Progress**
Last Listing Cycle's Final Listing Decision: New Decision
Revision Status Original

Weight of Evidence: This pollutant is being considered for listing under section 3.6 of the Listing Policy. Under section 3.6 a single line of evidence is necessary to assess listing status. One line of evidence are available in the administrative record to assess this pollutant. This water body experiences toxicity.

Based on the readily available data for this waterbody, the weight of evidence indicates that there is sufficient justification available in favor of adding this water segment-pollutant combination to the section 303(d) list in the Water Quality Limited Segments category.

This conclusion is based on the staff findings that:

1. The data concerning current conditions and supporting the listing decision satisfy the data quality requirements of section 6.1.4 of the Policy.

2. The data used satisfy the data quantity requirements of section 6.1.5 of the Policy.

3. Two out of 4 water samples exhibited significant chronic toxicity to Ceriodaphnia and two other test organisms showed diminished growth. The number of samples with detected significant water toxicity exceeds the allowable frequency listed in Table 3.1 of the Listing Policy and the sediment toxicity is also observed.

4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Lines of Evidence:

LOE ID: 8541

Pollutant: Toxicity
LOE Subgroup: Pollutant-Water

Beneficial Use: Cold Freshwater Habitat

Number of Samples: 4
Number of Exceedances: 2

Data and Information TOXICITY TESTING

Type:	
Data Used to Asses Water Quality:	Four samples were collected in 2003 to evaluate water toxicity at two monitoring locations at the mouth of Mount Diablo Creek and at Mitchell Canyon, the upstream tributary. The toxicity tests included survival and reproduction of Ceriodaphnia, survival and growth of fathead minnow, and growth of Selenastrum. Statistically significant chronic effects on Ceriodaphnia reproduction were observed in 2 out of 4 samples collected at both locations during winter wet season. In addition, one sample caused significant mortality and another caused a decrease in growth in fathead minnow. Selenastrum growth was also significantly reduced in one sample collected during winter wet season.
Data Reference:	Water Quality Monitoring and Bioassessment in Four San Francisco Bay Region Watersheds in 2003-2004: Kirker Creek, Mt. Diablo Creek, Petaluma River, and San Mateo Creek. Surface Water Monitoring Program, San Francisco Bay Regional Water Quality Control Board, Oakland. CA
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances that are lethal to or that produce other detrimental responses in aquatic organisms. There shall be no chronic toxicity in ambient waters. Chronic toxicity is a detrimental biological effect on growth rate, reproduction, fertilization success, larval development, population abundance, community composition, or any other relevant measure of the health of an organism, population, or community.
Objective/Criterion Reference:	San Francisco Bay Basin (Region 2) Water Quality Control Plan (Basin Plan)
Evaluation Guideline:	Water toxicity was evaluated according to the SWAMP methodology. The U.S.EPA whole effluent toxicity protocol (U.S.EPA 1994) was used to test the effect of water samples on three freshwater test organisms. Statistical evaluation ($\alpha = 0.05$) and a default threshold of 80% of the control value were used to establish whether water exhibited significant toxicity adversely impacting aquatic organisms.
Guideline Reference:	Thursby, G.B., Heltshe, J. and K.J. Scott. 1997. Revised approach to toxicity test acceptability criteria using a statistical performance assessment. Environmental Toxicology and Chemistry, vol. 16, No. 6, pp 1322-1329. Short-Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms. EPA/600/4-91/002. Third Edition. July 1994
Spatial Representation:	Data were collected at two sampling locations representative of the lower reach of the creek (2 samples) and the upstream tributary (2 samples).
Temporal Representation:	SWAMP samples were collected during winter wet season (January) and spring season (April) of 2003.
Environmental Conditions:	The lower reach data are representative of heavily urbanized area dominated by the city of Concord. The tributary stream of Mitchell Canyon drains in its upper portion the area within the Mt. Diablo State Park.
QAPP Information:	All samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB, 2002).

Permanente Creek

Selenium | Toxicity | Sediment Toxicity | Trash

Decision ID: 7651

Pollutant: Selenium, Total

Status: Decision in Progress

Weight of Evidence: This pollutant is being considered for listing under sections 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status. Two lines of evidence are available in the administrative record to assess this pollutant.

A sufficient number of samples exceed the NTR total selenium criterion for continuous concentration (chronic). Based on the readily available data for this waterbody, the weight of evidence indicates that there is sufficient justification available in favor of adding this water segment-pollutant combination to the section 303(d) list in the Water Quality Limited Segments category.

This conclusion is based on the staff findings that:

1. The data concerning current conditions and supporting the listing decision were collected as part of the SWAMP and satisfy the data quality requirements of section 6.1.4 of the Policy.

2. The data used satisfy the data quantity requirements of section 6.1.5 of the Policy. 3. Six of 12 samples exceeded the NTR criterion for total selenium and this exceeds the allowable frequency listed in Table 3.1 of the Listing Policy.

4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Lines of Evidence:

LOE ID:	4790
Pollutant:	Selenium, Total
Subgroup:	Pollutant-Water
Beneficial Use:	Cold Freshwater Habitat
Aquatic Life Use:	Wildlife Habitat
Matrix:	Water
Fraction:	Total
Number of Exceedances:	3
Number of Samples:	6
Data Used to Assess Water Quality:	Water quality assessment was conducted at two sampling locations in the Permanente Creek watershed as part of SWAMP assessment. The aim of the monitoring was to determine patterns of water quality, protection of beneficial uses and potential impacts of land use and water management. Sampled parameters included physical and biological indicators, conventional water quality, water metals and toxicity as well as sediment metals and toxicity. Three out of six samples collected at two monitoring locations during 2002

	exceeded the NTR continuous total selenium concentration criterion.
Data Reference(s):	Water Quality Monitoring and Bioassessment in Nine San Francisco Bay Region Watersheds: Walker Creek, Lagunitas Creek, San Leandro Creek, Wildcat Creek/San Pablo Creek, Suisun Creek, Arroyo Las Positas, Pescadero Creek/Butano Creek, San Gregorio Creek, and Stevens Creek/Permanente Creek. Oakland, CA: Surface Water Ambient Monitoring Program, San Francisco Bay Regional Water Quality Control Board
Water Quality Objective/Criterion:	NTR total selenium criterion for continuous concentration (chronic objective) in water for the protection of aquatic life is 5.0 µg/L (Water Quality Control Plan (Basin Plan) 2007, Table 3-4). The criterion is linked and applicable in streams with waters that support cold water ecosystems, including preservation or enhancement of aquatic habitats, vegetation, fish, or wildlife, including invertebrates.
Water Quality Objective/Criterion Reference(s):	San Francisco Bay Basin (Region 2) Water Quality Control Plan (Basin Plan)
Evaluation Guideline:	
Evaluation Guideline Reference(s):	
Spatial Representation:	Data were collected at two sampling locations representative of upper reach of the creek (3 samples) and the lower reach at the bottom of the watershed (3 samples).
Temporal Representation:	Samples were collected during spring, dry and wet season of 2002.
Environmental Conditions:	The lower reach data are representative of the predominantly urbanized area with a highly modified channel draining into South San Francisco Bay.
QAPP Information:	All samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB 2002).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. December 2002 (1st version)

LOE ID:	5765
Pollutant:	Selenium, Total
Subgroup:	Pollutant-Water
Beneficial Use:	Cold Freshwater Habitat
Aquatic Life Use:	Wildlife Habitat
Matrix:	Water
Fraction:	Total
Number of Exceedances:	3
Number of Samples:	6
Data Used to Assess Water Quality:	SCVURPPP (2007) monitoring program of Santa Clara Basin creeks collected water quality data at two monitoring locations corresponding to the SWAMP sampling points. Three out of six samples collected in 2005, 2006 and 2007 exceeded the NTR continuous total selenium concentration criterion.
Data Reference(s):	Monitoring and Assessment Summary Report: Santa Clara Basin Creeks (2002-2007). Watershed Monitoring and Assessment Program
Water Quality Objective/Criterion:	NTR total selenium criterion for continuous concentration (chronic objective) in water for the protection of aquatic life is 5.0 µg/L (Water Quality Control Plan (Basin Plan) 2007, Table 3-4). The criterion is linked and applicable in streams with waters that support cold water ecosystems, including preservation or

	enhancement of aquatic habitats, vegetation, fish, or wildlife, including invertebrates.
Water Quality Objective/Criterion Reference(s):	San Francisco Bay Basin (Region 2) Water Quality Control Plan (Basin Plan)
Evaluation Guideline:	
Evaluation Guideline Reference(s):	
Spatial Representation:	Data were collected at two sampling locations representative of upper reach of the creek (2 samples) and the lower reach at the bottom of the watershed (4 samples).
Temporal Representation:	SCVURPPP samples were collected during dry and wet seasons from 2005 through 2007.
Environmental Conditions:	The lower reach data are representative of the predominantly urbanized area with a highly modified channel draining into South San Francisco Bay.
QAPP Information:	All samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB 2002).

Decision ID: 9171

Pollutant: Toxicity

Status: Decision in Progress

Weight of Evidence: This pollutant is being considered for listing under sections 3.6 of the Listing Policy. Under section 3.6 a single line of evidence is necessary to assess listing status.

Two lines of evidence are available in the administrative record to assess this pollutant. This water body experiences toxicity.

Based on the readily available data for this waterbody, the weight of evidence indicates that there is sufficient justification available in favor of adding this water segment-pollutant combination to the section 303(d) list in the Water Quality Limited Segments category.

This conclusion is based on the staff findings that:

1. The data concerning current conditions and supporting the listing decision satisfy the data quality requirements of section 6.1.4 of the Policy.

2. The data used satisfy the data quantity requirements of section 6.1.5 of the Policy.

3. Six out of 6 water samples exhibited significant chronic toxicity to Selenastrum and the benthic community was considered to be degraded. The number of samples with detected significant water toxicity exceeds the allowable frequency listed in Table 3.1 of the Listing Policy and the sediment toxicity is observed.

4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Lines of Evidence:

LOE ID:	8571
Pollutant:	Toxicity
Subgroup:	Pollutant-Water

Beneficial Use:	CO - Cold Freshwater Habitat
Aquatic Life Use:	
Matrix:	Water
Fraction:	None
Number of Exceedances:	6
Number of Samples:	6
Data Used to Asses Water Quality:	Six samples were collected in 2002-2003 to evaluate water toxicity at two monitoring locations at the most downstream and upstream reaches of the creek. The toxicity tests included survival and reproduction of Ceriodaphnia, survival and growth of fathead minnow, and growth of Selenastrum. In all six samples at both locations, during all 3 seasons Selenastrum growth was significantly reduced. Selenastrum growth on average did not exceed 60.9% of the control with one sample from the downstream location exhibiting only 44.6% growth compared to control. At one station during winter Ceriodaphnia had significant mortality.
Data Reference(s):	Water Quality Monitoring and Bioassessment in Nine San Francisco Bay Region Watersheds: Walker Creek, Lagunitas Creek, San Leandro Creek, Wildcat Creek/San Pablo Creek, Suisun Creek, Arroyo Las Positas, Pescadero Creek/Butano Creek, San Gregorio Creek, and Stevens Creek/Permanente Creek. Oakland, CA: Surface Water Ambient Monitoring Program, San Francisco Bay Regional Water Quality Control Board.
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances that are lethal to or that produce other detrimental responses in aquatic organisms. There shall be no chronic toxicity in ambient waters. Chronic toxicity is a detrimental biological effect on growth rate, reproduction, fertilization success, larval development, population abundance, community composition, or any other relevant measure of the health of an organism, population, or community.
Water Quality Objective/Criterion Reference(s):	San Francisco Bay Basin (Region 2) Water Quality Control Plan (Basin Plan)
Evaluation Guideline:	Water toxicity was evaluated according to the SWAMP methodology. The U.S.EPA whole effluent toxicity protocol (U.S.EPA 1994) was used to test the effect of water samples on three freshwater test organisms. Statistical evaluation ($\alpha = 0.05$) and a default threshold of 80% of the control value were used to establish whether water exhibited significant toxicity adversely impacting aquatic organisms.
Evaluation Guideline Reference(s):	Thursby, G.B., Heltshe, J. and K.J. Scott. 1997. Revised approach to toxicity test acceptability criteria using a statistical performance assessment. Environmental Toxicology and Chemistry, vol. 16, No. 6, pp 1322-1329. Short-Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms. EPA/600/4-91/002. Third Edition. July 1994
Spatial Representation:	Data were collected at two sampling locations representative of upper reach of the creek (3 samples) and the lower reach at the bottom of the watershed (3 samples).
Temporal Representation:	SWAMP samples were collected during spring, dry and wet season of 2002-2003.
Environmental Conditions:	The lower reach data are representative of the predominantly urbanized area with a highly modified channel draining into South San Francisco Bay.
QAPP Information:	Samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB 2002).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. December 2002 (1st version)

LOE ID:	8574
Pollutant:	Sediment Toxicity
Subgroup:	Pollutant-Sediment
Beneficial Use:	Cold Freshwater Habitat
Matrix:	Sediment
Fraction:	None
Number of Exceedances:	1
Number of Samples:	1
Data Used to Asses Water Quality:	Data used to evaluate sediment toxicity comprise one sediment sample collected by the SWAMP in 2002. The sample displayed statistically significant toxicity during the 10-day Hyalella azteca test and exhibited diminished growth at 72.1% of control. In addition, many organic contaminants were found in the sediment above Threshold Effect Concentrations (TEC). Chlordane was particularly elevated above the Probable Effects Concentration (PEC) of 17.6 ug/kg.
Data Reference(s):	Water Quality Monitoring and Bioassessment in Nine San Francisco Bay Region Watersheds: Walker Creek, Lagunitas Creek, San Leandro Creek, Wildcat Creek/San Pablo Creek, Suisun Creek, Arroyo Las Positas, Pescadero Creek/Butano Creek, San Gregorio Creek, and Stevens Creek/Permanente Creek. Oakland, CA: Surface Water Ambient Monitoring Program, San Francisco Bay Regional Water Quality Control Board.
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances that are lethal to or that produce other detrimental responses in aquatic organisms. There shall be no chronic toxicity in ambient waters. Chronic toxicity is a detrimental biological effect on growth rate, reproduction, fertilization success, larval development, population abundance, community composition, or any other relevant measure of the health of an organism, population, or community.
Water Quality Objective/Criterion Reference(s):	San Francisco Bay Basin (Region 2) Water Quality Control Plan (Basin Plan)
Evaluation Guideline:	Sediment toxicity was evaluated according to the SWAMP methodology. Sample toxicity was determined by comparing mean organism response in samples and in negative controls. Statistical evaluation ($\alpha = 0.05$) and a default threshold of 80% of the control value were used to establish whether the sediment exhibited significant toxicity adversely impacting aquatic organisms.
Evaluation Guideline Reference(s):	Thursby, G.B., Heltshe, J. and K.J. Scott. 1997. Revised approach to toxicity test acceptability criteria using a statistical performance assessment. Environmental Toxicology and Chemistry, vol. 16, No. 6, pp 1322-1329.
Spatial Representation:	Data were collected at one sampling location at the lower part of Permanente Creek.
Temporal Representation:	Sample was collected during the dry summer season of 2002.
Environmental Conditions:	The lower reach data are representative of the predominantly urbanized area with a highly modified channel draining into South San Francisco Bay.
QAPP Information:	Samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB 2002).

Decision ID: 7646

Pollutant: Trash

Status: Decision in Progress

Weight of Evidence: This pollutant is being considered for placement on the section 303(d) list under section 3.11 of the Listing Policy. Under section 3.11, listing may be proposed based on the situation-specific weight of evidence.

One line of evidence is available in the administrative record to assess this pollutant. The line of evidence consists of data from field visits/trash surveys conducted according to the Rapid Trash Assessment (RTA) methodology.

Based on the readily available trash assessment data for this waterbody, the weight of evidence indicates that there is sufficient justification available in favor of placing this water segment-pollutant combination to the section 303(d) list in the Water Quality Limited Segments category.

This conclusion is based on the staff findings that:

1. Data have been evaluated that supports this decision.

2. The Rapid Trash Assessment methodology results showed that this waterbody had "threat to aquatic life" parameter scores in the poor category (indicating threat to Wildlife Habitat beneficial uses) at the only location surveyed in this waterbody on four different dates.

3. This waterbody is considered impaired by trash because there were exceedances of the evaluation guideline (poor condition category for the trash assessment metric) in more than one location or on more than one date.

4. The data used satisfy the data quality requirements of section 6.1.4 of the Policy.

5. The data used satisfy the data quantity requirements of section 6.1 of the Policy.

Lines of Evidence:

LOE ID:	5368
Pollutant:	Trash
Subgroup:	Pollutant-Nuisance
Beneficial Use:	Wildlife Habitat
Matrix:	Not Specified
Fraction:	None
Number of Exceedances:	4
Number of Samples:	4
Data Used to Assess Water Quality:	Data results were obtained through application the RTA methodology, developed by the Surface Water Ambient Monitoring Program (SWAMP). The RTA documents the total number and characteristics of pieces of trash per one hundred feet of stream or shoreline. The trash assessment protocol involves picking up and tallying all of the trash items found within the defined boundaries of a site. The tally results for "level of trash" (relating to REC2) and "threat to aquatic life" (relating to WILD) assessment parameters were considered for the listing

	determination. These results are available for field visits/trash surveys conducted in March, July, and October 2003, and March 2004 according to the Rapid Trash Assessment methodology. There were exceedances of the evaluation guideline (poor condition category for the trash assessment metric) in more than one location or on more than one date.
Data Reference(s):	A Rapid Trash Assessment Method Applied to Waters of the San Francisco Bay Region:Trash Measurement in Streams Rapid Trash Assessment (RTA) data collected by the SF Bay Region Surface Water Ambient Monitoring Program from 2002-2005 and method description
Water Quality Objective/Criterion:	Basin Plan prohibits discharge of "Rubbish, refuse, bark, sawdust, or other solid wastes into surface waters or at any place where they would contact or where they would be eventually transported to surface waters, including flood plain areas." Basin Plan has a narrative objective for floating material, "Waters shall not contain floating material, including solids, liquids, foams, and scum, in concentrations that cause nuisance or adversely affect beneficial uses." Basin Plan has a narrative objective for settleable material, "Waters shall not contain substances in concentrations that result in the deposition of material that cause nuisance or adversely affect beneficial uses."
Water Quality Objective/Criterion Reference(s):	San Francisco Bay Basin (Region 2) Water Quality Control Plan (Basin Plan)
Evaluation Guideline:	If the Rapid Trash Assessment (RTA) Parameter 1 (Level of Trash) is in the "poor condition category" (scores 0-5), REC2 is not supported. This level of trash "distracts the eye on first glance," making the site unsuitable for recreation. The RTA defines poor condition for this parameter as follows, "trash distracts the eye on first glance. Stream, bank surfaces, and immediate riparian zone contain substantial levels of litter and debris (>100 pieces). Evidence of site being used frequently by people: many cans, bottles, and food wrappers, blankets, clothing." If the RTA Parameter 3 (Threat to Aquatic Life) is in the poor condition category (scores 0-5), then WILD is not supported. This level of trash is a "large amount (>50 pieces) of transportable, persistent, buoyant litter" that is detrimental to aquatic life. The RTA defines poor condition for this parameter as follows, "large amount (>50 pieces) of transportable, persistent, buoyant litter such as: hard or soft plastics, balloons, Styrofoam, cigarette butts; toxic items such as batteries, lighters, or spray cans; large clumps of yard waste or dumped leaf litter; or large amount (>50 pieces) of settleable glass or metal."
Evaluation Guideline Reference(s):	A Rapid Trash Assessment Method Applied to Waters of the San Francisco Bay Region:Trash Measurement in Streams
Spatial Representation:	RTA data were collected for this waterbody at one location in 2003 and 2004. This location scored in the "poor condition" category for the "threat to aquatic life" parameter.
Temporal Representation:	RTA data were collected for this waterbody in March, July, and October in 2003 and March 2004. Data from all four months scored in the poor condition category for the threat to aquatic life parameter.
QAPP Information:	For RTA trash assessment data to be considered, the data must have been collected by field operators that have received a 2-hour training in the Rapid Trash Assessment methodology.

Petaluma River — Trash

Decision ID: 7647

Pollutant: Trash
Status: Decision in Progress
Weight of Evidence: This pollutant is being considered for placement on the section 303(d) list under section 3.11 of the Listing Policy. Under section 3.11, listing may be proposed based on the situation-specific weight of evidence.

Two lines of evidence are available in the administrative record to assess this pollutant. Both lines of evidence consist of data from field visits/trash surveys conducted according to the Rapid Trash Assessment (RTA) methodology. These data have been compared to evaluation guidelines to assess protection of the non-contact recreation beneficial use and the wildlife habitat beneficial use.

Based on the readily available trash assessment data for this waterbody, the weight of evidence indicates that there is sufficient justification available in favor of placing this water segment-pollutant combination to the section 303(d) list in the Water Quality Limited Segments category.

This conclusion is based on the staff findings that:

1. Data have been evaluated that supports this decision.

2. The Rapid Trash Assessment methodology results showed that this waterbody had "level of trash" parameter scores in the poor category (indicating impairment of non-contact water recreational beneficial uses) at a single location on three different dates. This waterbody had "threat to aquatic life" parameter scores in the poor category (indicating threat to Wildlife Habitat beneficial uses) at four different locations on three different dates.

3. This waterbody is considered impaired by trash because there were exceedances of the evaluation guidelines (poor condition category for the trash assessment metrics) in more than one location or on more than one date.

4. The data used satisfy the data quality requirements of section 6.1.4 of the Policy.

5. The data used satisfy the data quantity requirements of section 6.1 of the Policy.

Lines of Evidence:

LOE ID: 5482
Pollutant: Trash
Subgroup: Pollutant-Nuisance
Beneficial Use: Wildlife Habitat
Matrix: Not Specified
Fraction: None
Number of Exceedances: 10

Number of Samples:	16
Data Used to Assess Water Quality:	Data results were obtained through application the RTA methodology, developed by the Surface Water Ambient Monitoring Program (SWAMP). The RTA documents the total number and characteristics of pieces of trash per one hundred feet of stream or shoreline. The trash assessment protocol involves picking up and tallying all of the trash items found within the defined boundaries of a site. The tally results for "level of trash" (relating to REC2) and "threat to aquatic life" (relating to WILD) assessment parameters were considered for the listing determination. These results are available for field visits/trash surveys conducted in March, July, and November 2003, and January and February of 2004 according to the Rapid Trash Assessment methodology. This waterbody had "threat to aquatic life" parameter scores in the poor category (indicating threat to Wildlife Habitat beneficial uses) at four different locations on three different dates.
Data Reference(s):	A Rapid Trash Assessment Method Applied to Waters of the San Francisco Bay Region:Trash Measurement in Streams Rapid Trash Assessment (RTA) data collected by the SF Bay Region Surface Water Ambient Monitoring Program from 2002-2005 and method description
Water Quality Objective/Criterion:	Basin Plan prohibits discharge of "Rubbish, refuse, bark, sawdust, or other solid wastes into surface waters or at any place where they would contact or where they would be eventually transported to surface waters, including flood plain areas." Basin Plan has a narrative objective for floating material, "Waters shall not contain floating material, including solids, liquids, foams, and scum, in concentrations that cause nuisance or adversely affect beneficial uses." Basin Plan has a narrative objective for settleable material, "Waters shall not contain substances in concentrations that result in the deposition of material that cause nuisance or adversely affect beneficial uses."
Water Quality Objective/Criterion Reference(s):	San Francisco Bay Basin (Region 2) Water Quality Control Plan (Basin Plan)
Evaluation Guideline:	If the RTA Parameter 3 (Threat to Aquatic Life) is in the poor condition category (scores 0-5), then WILD is not supported. This level of trash is a "large amount (>50 pieces) of transportable, persistent, buoyant litter" that is detrimental to aquatic life. The RTA defines poor condition for this parameter as follows, "large amount (>50 pieces) of transportable, persistent, buoyant litter such as: hard or soft plastics, balloons, Styrofoam, cigarette butts; toxic items such as batteries, lighters, or spray cans; large clumps of yard waste or dumped leaf litter; or large amount (>50 pieces) of settleable glass or metal."
Evaluation Guideline Reference(s):	A Rapid Trash Assessment Method Applied to Waters of the San Francisco Bay Region:Trash Measurement in Streams
Spatial Representation:	RTA data were collected for this waterbody in four different locations in 2003 and 2004.
Temporal Representation:	RTA data were collected for this waterbody in March, July, and November in 2003, and January, February 2004.
QAPP Information:	For RTA trash assessment data to be considered, the data must have been collected by field operators that have received a 2-hour training in the Rapid Trash Assessment methodology.

LOE ID:	5483
Pollutant:	Trash
Subgroup:	Pollutant-Nuisance

Beneficial Use:	Non-Contact Recreation
Matrix:	Not Specified
Fraction:	None
Number of Exceedances:	3
Number of Samples:	16
Data Used to Assess Water Quality:	Data results were obtained through application the RTA methodology, developed by the Surface Water Ambient Monitoring Program (SWAMP). The RTA documents the total number and characteristics of pieces of trash per one hundred feet of stream or shoreline. The trash assessment protocol involves picking up and tallying all of the trash items found within the defined boundaries of a site. The tally results for "level of trash" (relating to REC2) and "threat to aquatic life" (relating to WILD) assessment parameters were considered for the listing determination. These results are available for field visits/trash surveys conducted in March, July, and November 2003, and January and February of 2004 according to the Rapid Trash Assessment methodology. This waterbody had "level of trash" parameter scores in the poor category (indicating impairment of non-contact water recreational beneficial uses) at a single location on three different dates.
Data Reference(s):	A Rapid Trash Assessment Method Applied to Waters of the San Francisco Bay Region:Trash Measurement in Streams Rapid Trash Assessment (RTA) data collected by the SF Bay Region Surface Water Ambient Monitoring Program from 2002-2005 and method description
Water Quality Objective/Criterion:	Basin Plan prohibits discharge of "Rubbish, refuse, bark, sawdust, or other solid wastes into surface waters or at any place where they would contact or where they would be eventually transported to surface waters, including flood plain areas." Basin Plan has a narrative objective for floating material, "Waters shall not contain floating material, including solids, liquids, foams, and scum, in concentrations that cause nuisance or adversely affect beneficial uses." Basin Plan has a narrative objective for settleable material, "Waters shall not contain substances in concentrations that result in the deposition of material that cause nuisance or adversely affect beneficial uses."
Water Quality Objective/Criterion Reference(s):	San Francisco Bay Basin (Region 2) Water Quality Control Plan (Basin Plan)
Evaluation Guideline:	If the Rapid Trash Assessment (RTA) Parameter 1 (Level of Trash) is in the "poor condition category" (scores 0-5), REC2 is not supported. This level of trash "distracts the eye on first glance," making the site unsuitable for recreation. The RTA defines poor condition for this parameter as follows, "trash distracts the eye on first glance. Stream, bank surfaces, and immediate riparian zone contain substantial levels of litter and debris (>100 pieces). Evidence of site being used frequently by people: many cans, bottles, and food wrappers, blankets, clothing."
Evaluation Guideline Reference(s):	A Rapid Trash Assessment Method Applied to Waters of the San Francisco Bay Region:Trash Measurement in Streams
Spatial Representation:	RTA data were collected for this waterbody in four different locations in 2003 and 2004.
Temporal Representation:	RTA data were collected for this waterbody in March, July, and November in 2003, and January, February 2004.
Environmental Conditions:	
QAPP Information:	For RTA trash assessment data to be considered, the data must have been collected by field operators that have received a 2-hour training in the Rapid Trash Assessment methodology.

Rindler Creek — Trash

Decision ID: 7648

Pollutant: Trash

Status: Decision in Progress

Weight of Evidence: This pollutant is being considered for placement on the section 303(d) list under section 3.11 of the Listing Policy. Under section 3.11, listing may be proposed based on the situation-specific weight of evidence.

Two lines of evidence are available in the administrative record to assess this pollutant in this waterbody. One line of evidence concerns the non-contact recreation beneficial use, and the second concerns the wildlife habitat beneficial use. Both lines of evidence rely on inspection of photographic evidence by Regional Water Board staff trained to conduct the Rapid Trash Assessment (RTA) methodology. The staff inspected these photos and applied the RTA methodology to develop Category 1 (Level of Trash) and Category 3 (Threat to Aquatic Life) scores for each photograph.

Based on the readily available photographic evidence for this waterbody, the weight of evidence indicates that there is sufficient justification available in favor of placing this water segment-pollutant combination to the section 303(d) list in the Water Quality Limited Segments category.

This conclusion is based on the staff findings that:

1. Photographic evidence has been evaluated that supports this decision.

2. Applying the Rapid Trash Assessment methodology to the photographic evidence suggests that this waterbody had "level of trash" parameter scores in the poor category (indicating impairment of non-contact water recreational beneficial uses) at three locations on three different dates. This waterbody also had "threat to aquatic life" parameter scores in the poor category (indicating threat to Wildlife Habitat beneficial uses) at three different locations on three different dates.

3. This waterbody is considered impaired by trash because there were exceedances of the evaluation guidelines (poor condition category for the trash assessment metrics) in more than one location or on more than one date.

4. The data used satisfy the data quality requirements of section 6.1.4 of the Policy.

5. The data used satisfy the data quantity requirements of section 6.1 of the Policy.

Lines of Evidence:

LOE ID:	5504
Pollutant:	Trash
Subgroup:	Pollutant-Nuisance
Beneficial Use:	Wildlife Habitat
Matrix:	Not Specified

Fraction:	None
Number of Exceedances:	4
Number of Samples:	4
Data Used to Assess Water Quality:	Data available consist of photographic evidence of trash and interpretation of these photos by an experienced trash assessment specialist. Each photograph was analyzed to establish the RTA score for the "level of trash" and "threat to aquatic life" parameters, which relate to impairment of REC2 and WILD, respectively. Only those photos clear enough to establish these RTA scores were relied on for the listing determination. These results are available for the following dates and locations on Rindler Creek: Rindler Creek Headwaters (Benicia Road and Columbus Parkway) on 5/14/2003 and 4/1/2006 At Marine World Parkway on 5/14/2003 and 4/1/2006 At Lemon Street Ditch on 5/14/2003 At Austin Creek Pump station on 5/14/2003 At White Slough, Sonoma Blvd. on 5/14/2003 At Lake Dalwigk and 1 km upstream on 4/18/2005 and 5/14/2003. This waterbody had "threat to aquatic life" parameter scores in the poor category (indicating threat to Wildlife Habitat beneficial uses) at three different locations on three different dates.
Data Reference(s):	Report from Roger James and Larry Kolb containing Trash Photos submitted for consideration in 2008 303(d) listing process Assessment by Matt Cover of Trash Photos (submitted to Region 2 in response to 2008 Data Solicitation) Archive of Trash Photos for Rindler Creek submitted for 2008 303(d) list consideration
Water Quality Objective/Criterion:	Basin Plan prohibits discharge of "Rubbish, refuse, bark, sawdust, or other solid wastes into surface waters or at any place where they would contact or where they would be eventually transported to surface waters, including flood plain areas." Basin Plan has a narrative objective for floating material, "Waters shall not contain floating material, including solids, liquids, foams, and scum, in concentrations that cause nuisance or adversely affect beneficial uses." Basin Plan has a narrative objective for settleable material, "Waters shall not contain substances in concentrations that result in the deposition of material that cause nuisance or adversely affect beneficial uses."
Water Quality Objective/Criterion Reference(s):	San Francisco Bay Basin (Region 2) Water Quality Control Plan (Basin Plan)
Evaluation Guideline:	If the Rapid Trash Assessment (RTA) Parameter 1 (Level of Trash) is in the "poor condition category" (scores 0-5), REC2 is not supported. This level of trash "distracts the eye on first glance," making the site unsuitable for recreation. The RTA defines poor condition for this parameter as follows, "trash distracts the eye on first glance. Stream, bank surfaces, and immediate riparian zone contain substantial levels of litter and debris (>100 pieces). Evidence of site being used frequently by people: many cans, bottles, and food wrappers, blankets, clothing." Regional Water Board staff trained in the RTA inspected the available photographic evidence and applied the assessment method to determine the Level of Trash score.

	If the RTA Parameter 3 (Threat to Aquatic Life) is in the poor condition category (scores 0-5), then WILD is not supported. This level of trash is a "large amount (>50 pieces) of transportable, persistent, buoyant litter" that is detrimental to aquatic life. The RTA defines poor condition for this parameter as follows, "large amount (>50 pieces) of transportable, persistent, buoyant litter such as: hard or soft plastics, balloons, Styrofoam, cigarette butts; toxic items such as batteries, lighters, or spray cans; large clumps of yard waste or dumped leaf litter; or large amount (>50 pieces) of settleable glass or metal." Regional Water Board staff trained in the RTA inspected the available photographic evidence and applied the assessment method to determine the Threat to Aquatic Life score.
Evaluation Guideline Reference(s):	A Rapid Trash Assessment Method Applied to Waters of the San Francisco Bay Region:Trash Measurement in Streams
Spatial Representation:	Photographic evidence was analyzed using the RTA methodology for this waterbody for seven different locations spanning dates from 2003 through 2006.
Temporal Representation:	Photographic evidence was collected for this waterbody on three separate dates from 2003 through 2006.
Environmental Conditions:	
QAPP Information:	Assessments of the photographic evidence using the RTA were performed by Regional Water Board staff person who was a co-author of the Rapid Trash Assessment methodology. Assessments based on photographic evidence were only conducted when sufficient reach-scale and close-up photos were available for a site on a specific date. Photos used for the evaluation needed to be numerous enough and clear enough to document the level of trash at the site in a similar way as the assessor would experience during an actual site visit in the field. For example, at a minimum, one reach-scale photograph (showing at least a 100 linear foot section of the waterbody) and two close-up photographs (of representative trash deposits) were required.

LOE ID:	5506
Pollutant:	Trash
Subgroup:	Pollutant-Nuisance
Beneficial Use:	Non-Contact Recreation
Matrix:	Not Specified
Fraction:	None
Number of Exceedances:	4
Number of Samples:	4
Data Used to Assess Water Quality:	Data available consist of photographic evidence of trash and interpretation of these photos by an experienced trash assessment specialist. Each photograph was analyzed to establish the RTA score for the "level of trash" and "threat to aquatic life" parameters, which relate to impairment of REC2 and WILD, respectively. Only those photos clear enough to establish these RTA scores were relied on for the listing determination. These results are available for the following dates and locations on Rindler Creek: Rindler Creek Headwaters (Benicia Road and Columbus Parkway) on 5/14/2003 and 4/1/2006 At Marine World Parkway on 5/14/2003 and 4/1/2006 At Lemon Street Ditch on 5/14/2003

	At Austin Creek Pump station on 5/14/2003 At White Slough, Sonoma Blvd. on 5/14/2003 At Lake Dalwigk and 1 km upstream on 4/18/2005 and 5/14/2003. This waterbody had "level of trash" parameter scores in the poor category (indicating impairment of non-contact water recreational beneficial uses) at three locations on three different dates.
Data Reference(s):	Report from Roger James and Larry Kolb containing Trash Photos submitted for consideration in 2008 303(d) listing process Assessment by Matt Cover of Trash Photos (submitted to Region 2 in response to 2008 Data Solicitation) Archive of Trash Photos for Rindler Creek submitted for 2008 303(d) list consideration
Water Quality Objective/Criterion:	Basin Plan prohibits discharge of "Rubbish, refuse, bark, sawdust, or other solid wastes into surface waters or at any place where they would contact or where they would be eventually transported to surface waters, including flood plain areas." Basin Plan has a narrative objective for floating material, "Waters shall not contain floating material, including solids, liquids, foams, and scum, in concentrations that cause nuisance or adversely affect beneficial uses." Basin Plan has a narrative objective for settleable material, "Waters shall not contain substances in concentrations that result in the deposition of material that cause nuisance or adversely affect beneficial uses."
Water Quality Objective/Criterion Reference(s):	San Francisco Bay Basin (Region 2) Water Quality Control Plan (Basin Plan)
Evaluation Guideline:	If the Rapid Trash Assessment (RTA) Parameter 1 (Level of Trash) is in the "poor condition category" (scores 0-5), REC2 is not supported. This level of trash "distracts the eye on first glance," making the site unsuitable for recreation. The RTA defines poor condition for this parameter as follows, "trash distracts the eye on first glance. Stream, bank surfaces, and immediate riparian zone contain substantial levels of litter and debris (>100 pieces). Evidence of site being used frequently by people: many cans, bottles, and food wrappers, blankets, clothing." Regional Water Board staff trained in the RTA inspected the available photographic evidence and applied the assessment method to determine the Level of Trash score. If the RTA Parameter 3 (Threat to Aquatic Life) is in the poor condition category (scores 0-5), then WILD is not supported. This level of trash is a "large amount (>50 pieces) of transportable, persistent, buoyant litter" that is detrimental to aquatic life. The RTA defines poor condition for this parameter as follows, "large amount (>50 pieces) of transportable, persistent, buoyant litter such as: hard or soft plastics, balloons, Styrofoam, cigarette butts; toxic items such as batteries, lighters, or spray cans; large clumps of yard waste or dumped leaf litter; or large amount (>50 pieces) of settleable glass or metal." Regional Water Board staff trained in the RTA inspected the available photographic evidence and applied the assessment method to determine the Threat to Aquatic Life score.
Evaluation Guideline Reference(s):	A Rapid Trash Assessment Method Applied to Waters of the San Francisco Bay Region:Trash Measurement in Streams
Spatial Representation:	Photographic evidence was analyzed using the RTA methodology for this waterbody for seven different locations spanning dates from 2003 through 2006.

Temporal Representation:	Photographic evidence was collected for this waterbody on three separate dates from 2003 through 2006.
Environmental Conditions:	
QAPP Information:	Assessments of the photographic evidence using the RTA were performed by Regional Water Board staff person who was a co-author of the Rapid Trash Assessment methodology. Assessments based on photographic evidence were only conducted when sufficient reach-scale and close-up photos were available for a site on a specific date. Photos used for the evaluation needed to be numerous enough and clear enough to document the level of trash at the site in a similar way as the assessor would experience during an actual site visit in the field. For example, at a minimum, one reach-scale photograph (showing at least a 100 linear foot section of the waterbody) and two close-up photographs (of representative trash deposits) were required.

San Francisco Bay, Central (shoreline) — Trash

Decision ID: 7654

Pollutant: Trash
Status: Decision in Progress
Weight of Evidence: This pollutant is being considered for placement on the section 303(d) list under section 3.11 of the Listing Policy. Under section 3.11, listing may be proposed based on the situation-specific weight of evidence.

Two lines of evidence are available in the administrative record to assess this pollutant. Both lines of evidence rely on inspection of photographic evidence by Regional Water Board staff trained to conduct the Rapid Trash Assessment (RTA) methodology. The staff inspected these photos and applied the RTA methodology to develop Category 1 (Level of Trash) and Category 3 (Threat to Aquatic Life) scores for each photograph.

Based on the readily available photographic evidence for this waterbody, the weight of evidence indicates that there is sufficient justification available in favor of placing this water segment-pollutant combination to the section 303(d) list in the Water Quality Limited Segments category.

This conclusion is based on the staff findings that:

1. Photographic evidence has been evaluated that supports this decision.

2. Applying the Rapid Trash Assessment methodology to the photographic evidence suggests that this waterbody had "level of trash" parameter scores in the poor category (indicating impairment of non-contact water recreational beneficial uses) at two locations on two different dates. This waterbody also had "threat to aquatic life" parameter scores in the poor category (indicating threat to Wildlife Habitat beneficial uses) at eight different locations on three different dates.

3. This waterbody is considered impaired by trash because there were exceedances of the evaluation guidelines (poor condition category for the trash assessment metrics) in more than one location or on more than one date.

4. The data used satisfy the data quality requirements of section 6.1.4 of the Policy.

5. The data used satisfy the data quantity requirements of section 6.1 of the Policy.

Lines of Evidence:

LOE ID:	5509
Pollutant:	Trash
Subgroup:	Pollutant-Nuisance
Beneficial Use:	Non-Contact Recreation
Matrix:	Not Specified
Fraction:	None
Number of Exceedances:	2
Number of Samples:	8

Data Used to Assess Water Quality:	Data available consist of photographic evidence of trash and interpretation of these photos by an experienced trash assessment specialist. Each photograph was analyzed to establish the RTA score for the "level of trash" and "threat to aquatic life" parameters, which relate to impairment of REC2 and WILD, respectively. Only those photos clear enough to establish these RTA scores were relied on for the listing determination. These results are available for the following dates and locations along the Bay shoreline: Virginia St., Eastshore State Park on 12/15/2006 Mouth of Strawberry Creek, Berkeley on 12/15/2006 Mouth Temescal Creek, 12/15/06 Powell St., Emeryville on 12/15/2006 Frontage Road Beach, north of Ashby St. on 12/15/2006 Bayfront Park in Richardson Bay on 1/24/2003 Enchanted Knolls Park on 1/24/2003 Richmond Field Station unknown date in 2007 This waterbody had "level of trash" parameter scores in the poor category (indicating impairment of non-contact water recreational beneficial uses) at two locations on two different dates.
Data Reference(s):	Report from Roger James and Larry Kolb containing Trash Photos submitted for consideration in 2008 303(d) listing process Assessment by Matt Cover of Trash Photos (submitted to Region 2 in response to 2008 Data Solicitation) Archive of Trash Photos for San Francisco Bay submitted for 2008 303(d) list consideration
Water Quality Objective/Criterion:	Basin Plan prohibits discharge of "Rubbish, refuse, bark, sawdust, or other solid wastes into surface waters or at any place where they would contact or where they would be eventually transported to surface waters, including flood plain areas." Basin Plan has a narrative objective for floating material, "Waters shall not contain floating material, including solids, liquids, foams, and scum, in concentrations that cause nuisance or adversely affect beneficial uses." Basin Plan has a narrative objective for settleable material, "Waters shall not contain substances in concentrations that result in the deposition of material that cause nuisance or adversely affect beneficial uses."
Water Quality Objective/Criterion Reference(s):	San Francisco Bay Basin (Region 2) Water Quality Control Plan (Basin Plan)
Evaluation Guideline:	If the Rapid Trash Assessment (RTA) Parameter 1 (Level of Trash) is in the "poor condition category" (scores 0-5), REC2 is not supported. This level of trash "distracts the eye on first glance," making the site unsuitable for recreation. The RTA defines poor condition for this parameter as follows, "trash distracts the eye on first glance. Stream, bank surfaces, and immediate riparian zone contain substantial levels of litter and debris (>100 pieces). Evidence of site being used frequently by people: many cans, bottles, and food wrappers, blankets, clothing." Regional Water Board staff trained in the RTA inspected the available photographic evidence and applied the assessment method to determine the Level of Trash score. If the RTA Parameter 3 (Threat to Aquatic Life) is in the poor condition category

	(scores 0-5), then WILD is not supported. This level of trash is a "large amount (>50 pieces) of transportable, persistent, buoyant litter" that is detrimental to aquatic life. The RTA defines poor condition for this parameter as follows, "large amount (>50 pieces) of transportable, persistent, buoyant litter such as: hard or soft plastics, balloons, Styrofoam, cigarette butts; toxic items such as batteries, lighters, or spray cans; large clumps of yard waste or dumped leaf litter; or large amount (>50 pieces) of settleable glass or metal." Regional Water Board staff trained in the RTA inspected the available photographic evidence and applied the assessment method to determine the Threat to Aquatic Life score.
Evaluation Guideline Reference(s):	A Rapid Trash Assessment Method Applied to Waters of the San Francisco Bay Region:Trash Measurement in Streams
Spatial Representation:	Photographic evidence was analyzed using the RTA methodology for this waterbody for 8 different locations spanning dates from 2003 through 2007.
Temporal Representation:	The photographic evidence inspected spans dates between January 2003 through February 2007.
Environmental Conditions:	
QAPP Information:	Assessments of the photographic evidence using the RTA were performed by Regional Water Board staff person who was a co-author of the Rapid Trash Assessment methodology. Assessments based on photographic evidence were only conducted when sufficient reach-scale and close-up photos were available for a site on a specific date. Photos used for the evaluation needed to be numerous enough and clear enough to document the level of trash at the site in a similar way as the assessor would experience during an actual site visit in the field. For example, at a minimum, one reach-scale photograph (showing at least a 100 linear foot section of the waterbody) and two close-up photographs (of representative trash deposits) were required.

LOE ID:	5508
Pollutant:	Trash
Subgroup:	Pollutant-Nuisance
Beneficial Use:	Wildlife Habitat
Matrix:	Not Specified
Fraction:	None
Number of Exceedances:	8
Number of Samples:	8
Data Used to Assess Water Quality:	Data available consist of photographic evidence of trash and interpretation of these photos by an experienced trash assessment specialist. Each photograph was analyzed to establish the RTA score for the "level of trash" and "threat to aquatic life" parameters, which relate to impairment of REC2 and WILD, respectively. Only those photos clear enough to establish these RTA scores were relied on for the listing determination. These results are available for the following dates and locations along the Bay shoreline: Virginia St., Eastshore State Park on 12/15/2006 Mouth of Strawberry Creek, Berkeley on 12/15/2006 Mouth Temescal Creek, 12/15/06 Powell St., Emeryville on 12/15/2006 Frontage Road Beach, north of Ashby St. on 12/15/2006

	Bayfront Park in Richardson Bay on 1/24/2003 Enchanted Knolls Park on 1/24/2003 Richmond Field Station unknown date in 2007 This waterbody had "threat to aquatic life" parameter scores in the poor category (indicating threat to Wildlife Habitat beneficial uses) at eight different locations on three different dates.
Data Reference(s):	Report from Roger James and Larry Kolb containing Trash Photos submitted for consideration in 2008 303(d) listing process Assessment by Matt Cover of Trash Photos (submitted to Region 2 in response to 2008 Data Solicitation) Archive of Trash Photos for San Francisco Bay submitted for 2008 303(d) list consideration
Water Quality Objective/Criterion:	Basin Plan prohibits discharge of "Rubbish, refuse, bark, sawdust, or other solid wastes into surface waters or at any place where they would contact or where they would be eventually transported to surface waters, including flood plain areas." Basin Plan has a narrative objective for floating material, "Waters shall not contain floating material, including solids, liquids, foams, and scum, in concentrations that cause nuisance or adversely affect beneficial uses." Basin Plan has a narrative objective for settleable material, "Waters shall not contain substances in concentrations that result in the deposition of material that cause nuisance or adversely affect beneficial uses."
Water Quality Objective/Criterion Reference(s):	San Francisco Bay Basin (Region 2) Water Quality Control Plan (Basin Plan)
Evaluation Guideline:	If the Rapid Trash Assessment (RTA) Parameter 1 (Level of Trash) is in the "poor condition category" (scores 0-5), REC2 is not supported. This level of trash "distracts the eye on first glance," making the site unsuitable for recreation. The RTA defines poor condition for this parameter as follows, "trash distracts the eye on first glance. Stream, bank surfaces, and immediate riparian zone contain substantial levels of litter and debris (>100 pieces). Evidence of site being used frequently by people: many cans, bottles, and food wrappers, blankets, clothing." Regional Water Board staff trained in the RTA inspected the available photographic evidence and applied the assessment method to determine the Level of Trash score. If the RTA Parameter 3 (Threat to Aquatic Life) is in the poor condition category (scores 0-5), then WILD is not supported. This level of trash is a "large amount (>50 pieces) of transportable, persistent, buoyant litter" that is detrimental to aquatic life. The RTA defines poor condition for this parameter as follows, "large amount (>50 pieces) of transportable, persistent, buoyant litter such as: hard or soft plastics, balloons, Styrofoam, cigarette butts; toxic items such as batteries, lighters, or spray cans; large clumps of yard waste or dumped leaf litter; or large amount (>50 pieces) of settleable glass or metal." Regional Water Board staff trained in the RTA inspected the available photographic evidence and applied the assessment method to determine the Threat to Aquatic Life score.
Evaluation Guideline Reference(s):	A Rapid Trash Assessment Method Applied to Waters of the San Francisco Bay Region:Trash Measurement in Streams
Spatial Representation:	Photographic evidence was analyzed using the RTA methodology for this waterbody for 8 different locations spanning dates from 2003 through 2007.

Temporal Representation:	The photographic evidence inspected spans dates between January 2003 through February 2007.
Environmental Conditions:	
QAPP Information:	Assessments of the photographic evidence using the RTA were performed by Regional Water Board staff person who was a co-author of the Rapid Trash Assessment methodology. Assessments based on photographic evidence were only conducted when sufficient reach-scale and close-up photos were available for a site on a specific date. Photos used for the evaluation needed to be numerous enough and clear enough to document the level of trash at the site in a similar way as the assessor would experience during an actual site visit in the field. For example, at a minimum, one reach-scale photograph (showing at least a 100 linear foot section of the waterbody) and two close-up photographs (of representative trash deposits) were required.

San Francisco Bay, Lower (shoreline) — Trash

Decision ID: 7652

Pollutant: Trash

Status: Decision in Progress

Weight of Evidence: This pollutant is being considered for placement on the section 303(d) list under section 3.11 of the Listing Policy. Under section 3.11, listing may be proposed based on the situation-specific weight of evidence.

Two lines of evidence are available in the administrative record to assess this pollutant. Both lines of evidence rely on inspection of photographic evidence by Regional Water Board staff trained to conduct the Rapid Trash Assessment (RTA) methodology. The staff inspected these photos and applied the RTA methodology to develop Category 1 (Level of Trash) and Category 3 (Threat to Aquatic Life) scores for each photograph.

Based on the readily available photographic evidence for this waterbody, the weight of evidence indicates that there is sufficient justification available in favor of placing this water segment-pollutant combination to the section 303(d) list in the Water Quality Limited Segments category.

This conclusion is based on the staff findings that:

1. Photographic evidence has been evaluated that supports this decision.

2. Applying the Rapid Trash Assessment methodology to the photographic evidence suggests that this waterbody had "level of trash" parameter scores in the poor category (indicating impairment of non-contact water recreational beneficial uses) at two locations on two different dates. This waterbody also had "threat to aquatic life" parameter scores in the poor category (indicating threat to Wildlife Habitat beneficial uses) at two location on four different dates.

3. This waterbody is considered impaired by trash because there were exceedances of the evaluation guidelines (poor condition category for the trash assessment metrics) in more than one location or on more than one date.

4. The data used satisfy the data quality requirements of section 6.1.4 of the Policy.

5. The data used satisfy the data quantity requirements of section 6.1 of the Policy.

Lines of Evidence:

LOE ID:	5511
Pollutant:	Trash
Subgroup:	Pollutant-Nuisance
Beneficial Use:	Non-Contact Recreation
Matrix:	Not Specified
Fraction:	None
Number of Exceedances:	3
Number of Samples:	5

Data Used to Assess Water Quality:	Data available consist of photographic evidence of trash and interpretation of these photos by an experienced trash assessment specialist. Each photograph was analyzed to establish the RTA score for the "level of trash" and "threat to aquatic life" parameters, which relate to impairment of REC2 and WILD, respectively. Only those photos clear enough to establish these RTA scores were relied on for the listing determination. These results are available for the following dates and locations along the Bay shoreline: Mouth of Ryder Ct. Park on 12/10/2003 and 4/1/2006 Tidal Area, near mouth at Oakport on 12/10/2003, 12/16/2004, 1/5/2005, 12/19/2005, 3/29/2006, 2/23/2007 This waterbody had "level of trash" parameter scores in the poor category (indicating impairment of non-contact water recreational beneficial uses) at two locations on two different dates.
Data Reference(s):	Report from Roger James and Larry Kolb containing Trash Photos submitted for consideration in 2008 303(d) listing process Assessment by Matt Cover of Trash Photos (submitted to Region 2 in response to 2008 Data Solicitation) Archive of Trash Photos for San Francisco Bay submitted for 2008 303(d) list consideration
Water Quality Objective/Criterion:	Basin Plan prohibits discharge of "Rubbish, refuse, bark, sawdust, or other solid wastes into surface waters or at any place where they would contact or where they would be eventually transported to surface waters, including flood plain areas." Basin Plan has a narrative objective for floating material, "Waters shall not contain floating material, including solids, liquids, foams, and scum, in concentrations that cause nuisance or adversely affect beneficial uses." Basin Plan has a narrative objective for settleable material, "Waters shall not contain substances in concentrations that result in the deposition of material that cause nuisance or adversely affect beneficial uses."
Water Quality Objective/Criterion Reference(s):	San Francisco Bay Basin (Region 2) Water Quality Control Plan (Basin Plan)
Evaluation Guideline:	If the Rapid Trash Assessment (RTA) Parameter 1 (Level of Trash) is in the "poor condition category" (scores 0-5), REC2 is not supported. This level of trash "distracts the eye on first glance," making the site unsuitable for recreation. The RTA defines poor condition for this parameter as follows, "trash distracts the eye on first glance. Stream, bank surfaces, and immediate riparian zone contain substantial levels of litter and debris (>100 pieces). Evidence of site being used frequently by people: many cans, bottles, and food wrappers, blankets, clothing." Regional Water Board staff trained in the RTA inspected the available photographic evidence and applied the assessment method to determine the Level of Trash score. If the RTA Parameter 3 (Threat to Aquatic Life) is in the poor condition category (scores 0-5), then WILD is not supported. This level of trash is a "large amount (>50 pieces) of transportable, persistent, buoyant litter" that is detrimental to aquatic life. The RTA defines poor condition for this parameter as follows, "large amount (>50 pieces) of transportable, persistent, buoyant litter such as: hard or soft plastics, balloons, Styrofoam, cigarette butts; toxic items such as batteries, lighters, or spray cans; large clumps of yard waste or dumped leaf litter; or large amount (>50 pieces) of settleable glass or metal." Regional Water Board staff trained in the RTA inspected the available photographic evidence and applied the

	assessment method to determine the Threat to Aquatic Life score.
Evaluation Guideline Reference(s):	A Rapid Trash Assessment Method Applied to Waters of the San Francisco Bay Region:Trash Measurement in Streams
Spatial Representation:	Photographic evidence was analyzed using the RTA methodology for this waterbody for 2 different locations spanning dates from 2003 through 2007.
Temporal Representation:	The photographic evidence inspected spans dates between January 2003 through February 2007.
Environmental Conditions:	
QAPP Information:	Assessments of the photographic evidence using the RTA were performed by Regional Water Board staff person who was a co-author of the Rapid Trash Assessment methodology. Assessments based on photographic evidence were only conducted when sufficient reach-scale and close-up photos were available for a site on a specific date. Photos used for the evaluation needed to be numerous enough and clear enough to document the level of trash at the site in a similar way as the assessor would experience during an actual site visit in the field. For example, at a minimum, one reach-scale photograph (showing at least a 100 linear foot section of the waterbody) and two close-up photographs (of representative trash deposits) were required.

LOE ID:	5510
Pollutant:	Trash
Subgroup:	Pollutant-Nuisance
Beneficial Use:	Wildlife Habitat
Matrix:	Not Specified
Fraction:	None
Number of Exceedances:	5
Number of Samples:	5
Data Used to Assess Water Quality:	Data available consist of photographic evidence of trash and interpretation of these photos by an experienced trash assessment specialist. Each photograph was analyzed to establish the RTA score for the "level of trash" and "threat to aquatic life" parameters, which relate to impairment of REC2 and WILD, respectively. Only those photos clear enough to establish these RTA scores were relied on for the listing determination. These results are available for the following dates and locations along the Bay shoreline: Mouth of Ryder Ct. Park on 12/10/2003 and 4/1/2006 Tidal Area, near mouth at Oakport on 12/10/2003, 12/16/2004, 1/5/2005, 12/19/2005, 3/29/2006, 2/23/2007 This waterbody had "threat to aquatic life" parameter scores in the poor category (indicating threat to Wildlife Habitat beneficial uses) at two location on four different dates.
Data Reference(s):	Report from Roger James and Larry Kolb containing Trash Photos submitted for consideration in 2008 303(d) listing process Assessment by Matt Cover of Trash Photos (submitted to Region 2 in response to 2008 Data Solicitation) Archive of Trash Photos for San Francisco Bay submitted for 2008 303(d) list consideration
Water Quality Objective/Criterion:	Basin Plan prohibits discharge of "Rubbish, refuse, bark, sawdust, or other solid wastes into surface waters or at any place where they would contact or where they

	would be eventually transported to surface waters, including flood plain areas." Basin Plan has a narrative objective for floating material, "Waters shall not contain floating material, including solids, liquids, foams, and scum, in concentrations that cause nuisance or adversely affect beneficial uses." Basin Plan has a narrative objective for settleable material, "Waters shall not contain substances in concentrations that result in the deposition of material that cause nuisance or adversely affect beneficial uses."
Water Quality Objective/Criterion Reference(s):	San Francisco Bay Basin (Region 2) Water Quality Control Plan (Basin Plan)
Evaluation Guideline:	If the Rapid Trash Assessment (RTA) Parameter 1 (Level of Trash) is in the "poor condition category" (scores 0-5), REC2 is not supported. This level of trash "distracts the eye on first glance," making the site unsuitable for recreation. The RTA defines poor condition for this parameter as follows, "trash distracts the eye on first glance. Stream, bank surfaces, and immediate riparian zone contain substantial levels of litter and debris (>100 pieces). Evidence of site being used frequently by people: many cans, bottles, and food wrappers, blankets, clothing." Regional Water Board staff trained in the RTA inspected the available photographic evidence and applied the assessment method to determine the Level of Trash score. If the RTA Parameter 3 (Threat to Aquatic Life) is in the poor condition category (scores 0-5), then WILD is not supported. This level of trash is a "large amount (>50 pieces) of transportable, persistent, buoyant litter" that is detrimental to aquatic life. The RTA defines poor condition for this parameter as follows, "large amount (>50 pieces) of transportable, persistent, buoyant litter such as: hard or soft plastics, balloons, Styrofoam, cigarette butts; toxic items such as batteries, lighters, or spray cans; large clumps of yard waste or dumped leaf litter; or large amount (>50 pieces) of settleable glass or metal." Regional Water Board staff trained in the RTA inspected the available photographic evidence and applied the assessment method to determine the Threat to Aquatic Life score.
Evaluation Guideline Reference(s):	A Rapid Trash Assessment Method Applied to Waters of the San Francisco Bay Region:Trash Measurement in Streams
Spatial Representation:	Photographic evidence was analyzed using the RTA methodology for this waterbody for 2 different locations spanning dates from 2003 through 2007.
Temporal Representation:	The photographic evidence inspected spans dates between January 2003 through February 2007.
Environmental Conditions:	
QAPP Information:	Assessments of the photographic evidence using the RTA were performed by Regional Water Board staff person who was a co-author of the Rapid Trash Assessment methodology. Assessments based on photographic evidence were only conducted when sufficient reach-scale and close-up photos were available for a site on a specific date. Photos used for the evaluation needed to be numerous enough and clear enough to document the level of trash at the site in a similar way as the assessor would experience during an actual site visit in the field. For example, at a minimum, one reach-scale photograph (showing at least a 100 linear foot section of the waterbody) and two close-up photographs (of representative trash deposits) were required.

San Francisquito Creek — Trash

Decision ID: 7655

Pollutant: Trash
Status: Decision in Progress
Weight of Evidence: This pollutant is being considered for placement on the section 303(d) list under section 3.11 of the Listing Policy. Under section 3.11, listing may be proposed based on the situation-specific weight of evidence.

Two lines of evidence are available in the administrative record to assess this pollutant. Both lines of evidence rely on data from field visits/trash surveys conducted according to the Urban Rapid Trash Assessment (URTA) methodology developed by the Santa Clara Valley Urban Runoff Pollution Prevention Program (SCVURPPP).

Based on the readily available trash assessment data for this waterbody, the weight of evidence indicates that there is sufficient justification available in favor of placing this water segment-pollutant combination to the section 303(d) list in the Water Quality Limited Segments category.

This conclusion is based on the staff findings that:

1. Data have been evaluated that supports this decision.

2. The Urban Rapid Trash Assessment methodology results showed that this waterbody had "level of trash" parameter scores in the poor category (indicating impairment of non-contact water recreational beneficial uses) at different four locations and on four different dates. This waterbody also had "transportable, Persistent, Buoyant Litter" parameter scores in the marginal urban and poor category (indicating threat to Wildlife Habitat beneficial uses) at four different locations and on three different dates.

3. This waterbody is considered impaired by trash because there were exceedances of the evaluation guidelines (poor condition category for the trash assessment metrics) in more than one location or on more than one date.

4. The data used satisfy the data quality requirements of section 6.1.4 of the Policy.

5. The data used satisfy the data quantity requirements of section 6.1 of the Policy.

Lines of Evidence:

LOE ID:	5537
Pollutant:	Trash
Subgroup:	Pollutant-Nuisance
Beneficial Use:	Wildlife Habitat
Matrix:	Not Specified
Fraction:	None
Number of Exceedances:	5
Number of Samples:	23
Data Used to Assess Water Quality:	Data results were obtained through application of the Urban Rapid Trash Assessment (URTA) methodology, developed by the Santa Clara Valley Urban

	Runoff Pollution Prevention Program. The URTA is a modification of the Rapid Trash Assessment (RTA) developed by the Surface Water Ambient Monitoring Program (SWAMP). The URTA method documents the total number and characteristics of pieces of trash per one hundred feet of stream or shoreline. The trash assessment protocol involves picking up and tallying all of the trash items found within the defined boundaries of a site. The tally results for "level of trash" (relating to REC2) and "transportable, persistent, buoyant litter" (relating to WILD) assessment parameters were considered for the listing determination. These results are available for field visits/trash surveys conducted in February 2005, July 2005, May 2006, October 2006, May 2007, September 2007, and October 2007 according to the Urban Rapid Trash Assessment (URTA) methodology. This waterbody had "transportable, Persistent, Buoyant Litter" parameter scores in the marginal urban and poor category (indicating threat to Wildlife Habitat beneficial uses) at four different locations and on three different dates.
Data Reference(s):	Memo: Development of Urban Rapid Trash Assessment Protocol. March 13, 2006 Spreadsheet of Urban Rapid Trash Assessment (URTA) data collected by the Santa Clara Valley Urban Runoff Pollution Prevention Program, 2004-2007
Water Quality Objective/Criterion:	Basin Plan prohibits discharge of "Rubbish, refuse, bark, sawdust, or other solid wastes into surface waters or at any place where they would contact or where they would be eventually transported to surface waters, including flood plain areas." Basin Plan has a narrative objective for floating material, "Waters shall not contain floating material, including solids, liquids, foams, and scum, in concentrations that cause nuisance or adversely affect beneficial uses." Basin Plan has a narrative objective for settleable material, "Waters shall not contain substances in concentrations that result in the deposition of material that cause nuisance or adversely affect beneficial uses."
Water Quality Objective/Criterion Reference(s):	San Francisco Bay Basin (Region 2) Water Quality Control Plan (Basin Plan)
Evaluation Guideline:	If the URTA Parameter 3 (Transportable, Persistent, Buoyant Litter) is in the marginal urban or poor condition category (scores 0-10), then WILD is not supported. The URTA defines marginal urban or poor condition for this parameter as follows. this level of trash is a "medium prevalence (76-200 pieces)" or "large amount (>200 pieces) of transportable, persistent, buoyant litter such as: hard or soft plastics, styrofoam, balloons, cigarette butts". These types of items are all detrimental to aquatic life.
Evaluation Guideline Reference(s):	Memo: Development of Urban Rapid Trash Assessment Protocol. March 13, 2006
Spatial Representation:	URTA data were collected for this waterbody in six locations from 2004 through 2006.
Temporal Representation:	URTA data were collected for this waterbody on seven separate dates, 2004 through 2006.
Environmental Conditions:	
QAPP Information:	Data were collected by trained staff in accordance with URTA methodology developed by SCVURPPP and are deemed reliable and of sufficient quality on which to base listing determinations.

LOE ID:	5538
Pollutant:	Trash
Subgroup:	Pollutant-Nuisance

Beneficial Use:	Non-Contact Recreation
Matrix:	Not Specified
Fraction:	None
Number of Exceedances:	7
Number of Samples:	23
Data Used to Assess Water Quality:	Data results were obtained through application of the Urban Rapid Trash Assessment (URTA) methodology, developed by the Santa Clara Valley Urban Runoff Pollution Prevention Program. The URTA is a modification of the Rapid Trash Assessment (RTA) developed by the Surface Water Ambient Monitoring Program (SWAMP). The URTA method documents the total number and characteristics of pieces of trash per one hundred feet of stream or shoreline. The trash assessment protocol involves picking up and tallying all of the trash items found within the defined boundaries of a site. The tally results for "level of trash" (relating to REC2) and "transportable, persistent, buoyant litter" (relating to WILD) assessment parameters were considered for the listing determination. These results are available for field visits/trash surveys conducted in February 2005, July 2005, May 2006, October 2006, May 2007, September 2007, and October 2007 according to the Urban Rapid Trash Assessment (URTA) methodology. This waterbody had "level of trash" parameter scores in the poor category (indicating impairment of non-contact water recreational beneficial uses) at different four locations and on four different dates.
Data Reference(s):	Memo: Development of Urban Rapid Trash Assessment Protocol. March 13, 2006 Spreadsheet of Urban Rapid Trash Assessment (URTA) data collected by the Santa Clara Valley Urban Runoff Pollution Prevention Program, 2004-2007
Water Quality Objective/Criterion:	Basin Plan prohibits discharge of "Rubbish, refuse, bark, sawdust, or other solid wastes into surface waters or at any place where they would contact or where they would be eventually transported to surface waters, including flood plain areas." Basin Plan has a narrative objective for floating material, "Waters shall not contain floating material, including solids, liquids, foams, and scum, in concentrations that cause nuisance or adversely affect beneficial uses." Basin Plan has a narrative objective for settleable material, "Waters shall not contain substances in concentrations that result in the deposition of material that cause nuisance or adversely affect beneficial uses."
Water Quality Objective/Criterion Reference(s):	San Francisco Bay Basin (Region 2) Water Quality Control Plan (Basin Plan)
Evaluation Guideline:	If the Urban Rapid Trash Assessment (URTA) Parameter 1 (Level of Trash) is in the "poor condition category" (scores 0-5), REC2 is not supported. The URTA defines poor condition for this parameter as a level of trash that "distracts the eye on first glance. Stream, bank surfaces, and immediate riparian zone contain substantial levels of litter and debris. Evidence of site being used frequently by people: many cans, bottles, and food wrappers, blankets, clothing."
Evaluation Guideline Reference(s):	Memo: Development of Urban Rapid Trash Assessment Protocol. March 13, 2006
Spatial Representation:	URTA data were collected for this waterbody in six locations from 2004 through 2006.
Temporal Representation:	URTA data were collected for this waterbody on seven separate dates, 2004 through 2006.
QAPP Information:	Data were collected by trained staff in accordance with URTA methodology developed by SCVURPPP and are deemed reliable and of sufficient quality on which to base listing determinations.

San Leandro Creek, Lower

Chromium | Trash

Decision ID: 7573

Pollutant: Chromium, hexavalent

Status: Decision in Progress

Weight of Evidence: This pollutant is being considered for listing under sections 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. A sufficient number of samples exceed the CTR dissolved chromium VI criterion for continuous concentration (chronic).

Based on the readily available data for this waterbody, the weight of evidence indicates that there is sufficient justification available in favor of adding this water segment-pollutant combination to the section 303(d) list in the Water Quality Limited Segments category.

This conclusion is based on the staff findings that:

1. The data concerning current conditions and supporting the listing decision were collected as part of the SWAMP and satisfy the data quality requirements of section 6.1.4 of the Policy.

2. The data used satisfy the data quantity requirements of section 6.1.5 of the Policy.

3. Two samples exceeded the CTR criterion for dissolved chromium VI and this exceeds the allowable frequency listed in Table 3.1 of the Listing Policy.

4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Lines of Evidence:

LOE ID:	4792
Pollutant:	Chromium, hexavalent
Subgroup:	Pollutant-Water
Beneficial Use:	Warm Freshwater Habitat
Aquatic Life Use:	Wildlife Habitat
Matrix:	Water
Fraction:	Dissolved
Number of Exceedances:	2
Number of Samples:	2
Data Used to Assess Water Quality:	Comprehensive water quality assessment was conducted at the confluence of the Lower San Leandro Creek watershed as part of SWAMP assessment. The aim of the monitoring was to determine patterns of water quality, protection of beneficial uses and potential impacts of land use and water management. Sampled parameters included physical and biological indicators, conventional water quality, water metals and toxicity as well as sediment metals and toxicity.

	Two samples collected during 2001 monitoring exceeded the CTR continuous dissolved chromium VI concentration criterion and one of these samples exceeded the maximum concentration criterion of 16µg/L. Dissolved chromium levels for these samples were at least an order of magnitude higher than at all other sites that were monitored and the site received an overall poor bioassessment score.
Data Reference(s):	Water Quality Monitoring and Bioassessment in Nine San Francisco Bay Region Watersheds: Walker Creek, Lagunitas Creek, San Leandro Creek, Wildcat Creek/San Pablo Creek, Suisun Creek, Arroyo Las Positas, Pescadero Creek/Butano Creek, San Gregorio Creek, and Stevens Creek/Permanente Creek. Oakland, CA: Surface Water Ambient Monitoring Program, San Francisco Bay Regional Water Quality Control Board
Water Quality Objective/Criterion:	CTR total selenium criterion for continuous concentration (chronic objective) in water for the protection of aquatic life is 11.0µg/L. The criterion is linked and applicable in streams with waters that support warm water ecosystems, including preservation or enhancement of aquatic habitats, vegetation, fish, or wildlife, including invertebrates.
Water Quality Objective/Criterion Reference(s):	San Francisco Bay Basin (Region 2) Water Quality Control Plan (Basin Plan)
Evaluation Guideline:	
Evaluation Guideline Reference(s):	
Spatial Representation:	Data were collected at a sampling location at the bottom of the watershed.
Temporal Representation:	Samples were collected during spring and dry season of 2001.
Environmental Conditions:	Data are representative of a channelized creek flowing through residential and urban industrial areas that predominate in the Lower San Leandro Creek watershed. Lake Chabot forms a strong hydrologic divide between this part of the watershed and the upper portion of San Leandro Creek and delineates land uses and beneficial uses within the watershed.
QAPP Information:	SWAMP Quality Assurance Management Plan (SWRCB 2002).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. December 2002 (1st version)

Decision ID:	7656
Pollutant:	Trash
Status:	Decision in Progress
Weight of Evidence:	This pollutant is being considered for placement on the section 303(d) list under section 3.11 of the Listing Policy. Under section 3.11, listing may be proposed based on the situation-specific weight of evidence. Two lines of evidence are available in the administrative record to assess this pollutant. Both lines of evidence rely on inspection of photographic evidence by Regional Water Board staff trained to conduct the Rapid Trash Assessment (RTA) methodology. The staff inspected these photos and applied the RTA methodology to develop Category 1 (Level of Trash) and Category 3 (Threat to Aquatic Life)

scores for each photograph.

Based on the readily available photographic evidence for this waterbody, the weight of evidence indicates that there is sufficient justification available in favor of placing this water segment-pollutant combination to the section 303(d) list in the Water Quality Limited Segments category.

This conclusion is based on the staff findings that:

1. Photographic evidence has been evaluated that supports this decision.

2. Applying the Rapid Trash Assessment methodology to the photographic evidence suggests that this waterbody had "level of trash" parameter scores in the poor category (indicating impairment of non-contact water recreational beneficial uses) at three locations on four different dates. This waterbody also had "threat to aquatic life" parameter scores in the poor category (indicating threat to Wildlife Habitat beneficial uses) at three different locations on six different dates.

3. This waterbody is considered impaired by trash because there were exceedances of the evaluation guidelines (poor condition category for the trash assessment metrics) in more than one location or on more than one date.

4. The data used satisfy the data quality requirements of section 6.1.4 of the Policy.

5. The data used satisfy the data quantity requirements of section 6.1 of the Policy.

Lines of Evidence:

LOE ID:	5668
Pollutant:	Trash
Subgroup:	Pollutant-Nuisance
Beneficial Use:	Non-Contact Recreation
Matrix:	Not Specified
Fraction:	None
Number of Exceedances:	7
Number of Samples:	9
Data Used to Assess Water Quality:	Data available consist of photographic evidence of trash and interpretation of these photos by an experienced trash assessment specialist. Each photograph was analyzed to establish the RTA score for the "level of trash" and "threat to aquatic life" parameters, which relate to impairment of REC2 and WILD, respectively. Only those photos clear enough to establish these RTA scores were relied on for the listing determination. These results are available for the following dates and locations on Lower San Leandro Creek: 98th Ave. on 4/11/2001, 12/20/2002, 12/10/2003, 12/16/2004, 12/26/2004, 1/5/2005, 1/11/2006, and 2/23/2007 Hegenberger Road on 4/11/2001, and 2/23/2007 Leet Drive on 12/10/2003, and 1/11/2006 This waterbody had "level of trash" parameter scores in the poor category (indicating impairment of non-contact water recreational beneficial uses) at three locations on four different dates.
Data Reference(s):	Report from Roger James and Larry Kolb containing Trash Photos submitted for

	consideration in 2008 303(d) listing process
	Assessment by Matt Cover of Trash Photos (submitted to Region 2 in response to 2008 Data Solicitation)
	Archive of Trash Photos for Lower San Leandro Creek submitted for 2008 303(d) list consideration
Water Quality Objective/Criterion:	Basin Plan prohibits discharge of "Rubbish, refuse, bark, sawdust, or other solid wastes into surface waters or at any place where they would contact or where they would be eventually transported to surface waters, including flood plain areas." Basin Plan has a narrative objective for floating material, "Waters shall not contain floating material, including solids, liquids, foams, and scum, in concentrations that cause nuisance or adversely affect beneficial uses." Basin Plan has a narrative objective for settleable material, "Waters shall not contain substances in concentrations that result in the deposition of material that cause nuisance or adversely affect beneficial uses."
Water Quality Objective/Criterion Reference(s):	San Francisco Bay Basin (Region 2) Water Quality Control Plan (Basin Plan)
Evaluation Guideline:	If the Rapid Trash Assessment (RTA) Parameter 1 (Level of Trash) is in the "poor condition category" (scores 0-5), REC2 is not supported. This level of trash "distracts the eye on first glance," making the site unsuitable for recreation. The RTA defines poor condition for this parameter as follows, "trash distracts the eye on first glance. Stream, bank surfaces, and immediate riparian zone contain substantial levels of litter and debris (>100 pieces). Evidence of site being used frequently by people: many cans, bottles, and food wrappers, blankets, clothing." Regional Water Board staff trained in the RTA inspected the available photographic evidence and applied the assessment method to determine the Level of Trash score. If the RTA Parameter 3 (Threat to Aquatic Life) is in the poor condition category (scores 0-5), then WILD is not supported. This level of trash is a "large amount (>50 pieces) of transportable, persistent, buoyant litter" that is detrimental to aquatic life. The RTA defines poor condition for this parameter as follows, "large amount (>50 pieces) of transportable, persistent, buoyant litter such as: hard or soft plastics, balloons, Styrofoam, cigarette butts; toxic items such as batteries, lighters, or spray cans; large clumps of yard waste or dumped leaf litter; or large amount (>50 pieces) of settleable glass or metal." Regional Water Board staff trained in the RTA inspected the available photographic evidence and applied the assessment method to determine the Threat to Aquatic Life score.
Evaluation Guideline Reference(s):	A Rapid Trash Assessment Method Applied to Waters of the San Francisco Bay Region:Trash Measurement in Streams
Spatial Representation:	Photographic evidence was analyzed using the RTA methodology for this waterbody for three different locations spanning dates from 2001 through 2007.
Temporal Representation:	Photographic evidence was collected for this waterbody on six separate dates from 2001 through 2007.
Environmental Conditions:	
QAPP Information:	Assessments of the photographic evidence using the RTA were performed by Regional Water Board staff person who was a co-author of the Rapid Trash Assessment methodology. Assessments based on photographic evidence were only conducted when sufficient reach-scale and close-up photos were available for a site on a specific

	date. Photos used for the evaluation needed to be numerous enough and clear enough to document the level of trash at the site in a similar way as the assessor would experience during an actual site visit in the field. For example, at a minimum, one reach-scale photograph (showing at least a 100 linear foot section of the waterbody) and two close-up photographs (of representative trash deposits) were required.
LOE ID:	5667
Pollutant:	Trash
Subgroup:	Pollutant-Nuisance
Beneficial Use:	Wildlife Habitat
Matrix:	Not Specified
Fraction:	None
Number of Exceedances:	9
Number of Samples:	9
Data Used to Assess Water Quality:	Data available consist of photographic evidence of trash and interpretation of these photos by an experienced trash assessment specialist. Each photograph was analyzed to establish the RTA score for the "level of trash" and "threat to aquatic life" parameters, which relate to impairment of REC2 and WILD, respectively. Only those photos clear enough to establish these RTA scores were relied on for the listing determination. These results are available for the following dates and locations on Lower San Leandro Creek: 98th Ave. on 4/11/2001, 12/20/2002, 12/10/2003, 12/16/2004, 12/26/2004, 1/5/2005, 1/11/2006, and 2/23/2007 Hegenberger Road on 4/11/2001, and 2/23/2007 Leet Drive on 12/10/2003, and 1/11/2006 This waterbody had "threat to aquatic life" parameter scores in the poor category (indicating threat to Wildlife Habitat beneficial uses) at three different locations on six different dates.
Data Reference(s):	Report from Roger James and Larry Kolb containing Trash Photos submitted for consideration in 2008 303(d) listing process Assessment by Matt Cover of Trash Photos (submitted to Region 2 in response to 2008 Data Solicitation) Archive of Trash Photos for Lower San Leandro Creek submitted for 2008 303(d) list consideration
Water Quality Objective/Criterion:	Basin Plan prohibits discharge of "Rubbish, refuse, bark, sawdust, or other solid wastes into surface waters or at any place where they would contact or where they would be eventually transported to surface waters, including flood plain areas." Basin Plan has a narrative objective for floating material, "Waters shall not contain floating material, including solids, liquids, foams, and scum, in concentrations that cause nuisance or adversely affect beneficial uses." Basin Plan has a narrative objective for settleable material, "Waters shall not contain substances in concentrations that result in the deposition of material that cause nuisance or adversely affect beneficial uses."
Water Quality Objective/Criterion	San Francisco Bay Basin (Region 2) Water Quality Control Plan (Basin Plan)

Reference(s):	
Evaluation Guideline:	If the Rapid Trash Assessment (RTA) Parameter 1 (Level of Trash) is in the "poor condition category" (scores 0-5), REC2 is not supported. This level of trash "distracts the eye on first glance," making the site unsuitable for recreation. The RTA defines poor condition for this parameter as follows, "trash distracts the eye on first glance. Stream, bank surfaces, and immediate riparian zone contain substantial levels of litter and debris (>100 pieces). Evidence of site being used frequently by people: many cans, bottles, and food wrappers, blankets, clothing." Regional Water Board staff trained in the RTA inspected the available photographic evidence and applied the assessment method to determine the Level of Trash score. If the RTA Parameter 3 (Threat to Aquatic Life) is in the poor condition category (scores 0-5), then WILD is not supported. This level of trash is a "large amount (>50 pieces) of transportable, persistent, buoyant litter" that is detrimental to aquatic life. The RTA defines poor condition for this parameter as follows, "large amount (>50 pieces) of transportable, persistent, buoyant litter such as: hard or soft plastics, balloons, Styrofoam, cigarette butts; toxic items such as batteries, lighters, or spray cans; large clumps of yard waste or dumped leaf litter; or large amount (>50 pieces) of settleable glass or metal." Regional Water Board staff trained in the RTA inspected the available photographic evidence and applied the assessment method to determine the Threat to Aquatic Life score.
Evaluation Guideline Reference(s):	A Rapid Trash Assessment Method Applied to Waters of the San Francisco Bay Region:Trash Measurement in Streams
Spatial Representation:	Photographic evidence was analyzed using the RTA methodology for this waterbody for three different locations spanning dates from 2001 through 2007.
Temporal Representation:	Photographic evidence was collected for this waterbody on six separate dates from 2001 through 2007.
Environmental Conditions:	
QAPP Information:	Assessments of the photographic evidence using the RTA were performed by Regional Water Board staff person who was a co-author of the Rapid Trash Assessment methodology. Assessments based on photographic evidence were only conducted when sufficient reach-scale and close-up photos were available for a site on a specific date. Photos used for the evaluation needed to be numerous enough and clear enough to document the level of trash at the site in a similar way as the assessor would experience during an actual site visit in the field. For example, at a minimum, one reach-scale photograph (showing at least a 100 linear foot section of the waterbody) and two close-up photographs (of representative trash deposits) were required.

San Mateo Creek

Sediment Toxicity | Trash

Decision ID: 7574

Pollutant: Sediment Toxicity

Status: Decision in Progress

Weight of Evidence: This pollutant is being considered for listing under sections 3.6 of the Listing Policy. Under section 3.6 a single line of evidence is necessary to assess listing status. Two lines of evidence are available in the administrative record to assess this pollutant. Amphipod toxicity samples exhibit significant toxicity with Hyalella mean survival below 19%.

Based on the readily available data for this waterbody, the weight of evidence indicates that there is sufficient justification available in favor of adding this water segment-pollutant combination to the section 303(d) list in the Water Quality Limited Segments category.

This conclusion is based on the staff findings that:

1. The data concerning current conditions and supporting the listing decision satisfy the data quality requirements of section 6.1.4 of the Policy.

2. The data used satisfy the data quantity requirements of section 6.1.5 of the Policy.

3. All five sediment samples exhibited significant amphipod toxicity and the benthic community is considered to be degraded. The number of samples with detected significant toxicity exceeds the allowable frequency listed in Table 3.1 of the Listing Policy.

4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Lines of Evidence:

LOE ID:	4797
Pollutant:	Sediment Toxicity
Subgroup:	Toxicity
Beneficial Use:	Wildlife Habitat
Matrix:	Sediment
Fraction:	None
Number of Exceedances:	4
Number of Samples:	4
Data Used to Assess Water Quality:	Data used to evaluate sediment toxicity comprise four sediment samples collected as part of a PRISM grant (Lowe et al., 2007) in 2004-2005. All samples were toxic to both freshwater and estuarine amphipods during sampling events and exhibited the lowest per cent survival and highest contaminant concentrations compared to other six tributaries studied. The PRISM project samples were collected at both tidally influenced and

	freshwater segments of the creek.
Data Reference(s):	Final Project Report: Investigations of Sources and Effects of Pyrethroid Pesticides in Watersheds of the San Francisco Bay Estuary. Proposition 13 PRISM Grant # 041355520. SFEI Contribution #523. San Francisco Estuary Institute, Oakland, CA Water Quality Monitoring and Bioassessment in Four San Francisco Bay Region Watersheds in 2003-2004: Kirker Creek, Mt. Diablo Creek, Petaluma River, and San Mateo Creek. Surface Water Monitoring Program, San Francisco Bay Regional Water Quality Control Board, Oakland. CA
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances that are lethal to or that produce other detrimental responses in aquatic organisms. There shall be no chronic toxicity in ambient waters. Chronic toxicity is a detrimental biological effect on growth rate, reproduction, fertilization success, larval development, population abundance, community composition, or any other relevant measure of the health of an organism, population, or community.
Water Quality Objective/Criterion Reference(s):	San Francisco Bay Basin (Region 2) Water Quality Control Plan (Basin Plan)
Evaluation Guideline:	Sediment toxicity data were evaluated according to the SWAMP methodology. Sample toxicity was determined by comparing mean organism response in samples and in negative controls. Statistical evaluation and a default threshold of 80% of the control value were used to establish whether the sediment exhibited significant toxicity adversely impacting aquatic organisms.
Evaluation Guideline Reference(s):	Thursby, G.B., Heltshe, J. and K.J. Scott. 1997. Revised approach to toxicity test acceptability criteria using a statistical performance assessment. Environmental Toxicology and Chemistry, vol. 16, No. 6, pp 1322-1329.
Spatial Representation:	Data were collected at a sampling location at the lower part of San Mateo Creek within tidal reach (2 samples) and at the upper location in the freshwater reach just above the head of tide (2 samples).
Temporal Representation:	Samples were collected during winter season of 2004 (tidal and freshwater reach) and late spring of 2005 (tidal and freshwater reach). The winter sampling (November 2004) occurred after the first rain of the season to capture the potential effects of dry season pesticide use. The late spring sampling (April 2005) coincided with the presumption of increased pesticide application in urban and agricultural areas.
Environmental Conditions:	Data are representative of the lower watershed downstream from Mud Dam with the monitoring site located in the densely urbanized areas.
QAPP Information:	Data were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB 2002).

LOE ID:	4809
Pollutant:	Sediment Toxicity
Subgroup:	Toxicity
Beneficial Use:	Wildlife Habitat
Matrix:	Sediment
Fraction:	None
Number of Exceedances:	1
Number of Samples:	1
Data Used to Assess Water Quality:	Data used to evaluate sediment toxicity comprise one sediment sample collected by the SWAMP in 2003. The sample was toxic to both freshwater and estuarine

	amphipods and exhibited the lowest per cent survival and highest contaminant concentrations compared to other six tributaries studied. Comprehensive water quality assessment was conducted at seven monitoring sites in the San Mateo Creek watershed as part of SWAMP assessment. The aim of the monitoring was to determine patterns of water quality, protection of beneficial uses and potential impacts of land use and water management. Sampled parameters included physical and biological indicators, conventional water quality, water metals and toxicity as well as sediment metals and toxicity. SWAMP sediment sample was collected at the tidally influenced urban segment of San Mateo Creek.
Data Reference(s):	Water Quality Monitoring and Bioassessment in Four San Francisco Bay Region Watersheds in 2003-2004: Kirker Creek, Mt. Diablo Creek, Petaluma River, and San Mateo Creek. Surface Water Monitoring Program, San Francisco Bay Regional Water Quality Control Board, Oakland. CA
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances that are lethal to or that produce other detrimental responses in aquatic organisms. There shall be no chronic toxicity in ambient waters. Chronic toxicity is a detrimental biological effect on growth rate, reproduction, fertilization success, larval development, population abundance, community composition, or any other relevant measure of the health of an organism, population, or community.
Water Quality Objective/Criterion Reference(s):	San Francisco Bay Basin (Region 2) Water Quality Control Plan (Basin Plan)
Evaluation Guideline:	Sediment toxicity data were evaluated according to the SWAMP methodology. Sample toxicity was determined by comparing mean organism response in samples and in negative controls. Statistical evaluation and a default threshold of 80% of the control value were used to establish whether the sediment exhibited significant toxicity adversely impacting aquatic organisms.
Evaluation Guideline Reference(s):	Thursby, G.B., Heltshe, J. and K.J. Scott. 1997. Revised approach to toxicity test acceptability criteria using a statistical performance assessment. Environmental Toxicology and Chemistry, vol. 16, No. 6, pp 1322-1329.
Spatial Representation:	Data were collected at a sampling location at the lower part of San Mateo Creek within tidal reach.
Temporal Representation:	Sample was collected during spring season of 2003.
Environmental Conditions:	Data are representative of the lower watershed downstream from Mud Dam with the monitoring site located in the densely urbanized areas.
QAPP Information:	Data were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB 2002).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. December 2002 (1st version)

Decision ID:	7661
Pollutant:	Trash
Status:	Decision in Progress
Weight of Evidence:	This pollutant is being considered for placement on the section 303(d) list under section 3.11 of the Listing Policy. Under section 3.11, listing may be proposed based on the situation-specific weight of evidence.

There are four lines of evidence available in the administrative record to assess this pollutant. Two of these lines of evidence rely on inspection of photographic evidence by Regional Water Board staff trained to conduct the Rapid Trash Assessment (RTA) methodology. The staff inspected these photos and applied the RTA methodology to develop Category 1 (Level of Trash) and Category 3 (Threat to Aquatic Life) scores for each photograph.

The other two lines of evidence rely on data from field visits/trash surveys conducted according to the Rapid Trash Assessment (RTA) methodology.

Based on the readily available photographic and trash assessment data for this waterbody, the weight of evidence indicates that there is sufficient justification available in favor of placing this water segment-pollutant combination to the section 303(d) list in the Water Quality Limited Segments category.

This conclusion is based on the staff findings that:

1. Data have been evaluated that supports this decision.

2. The Rapid Trash Assessment methodology results showed that this waterbody had "level of trash" parameter scores in the poor category (indicating impairment of non-contact water recreational beneficial uses) at two locations. This waterbody also had "transportable, Persistent, Buoyant Litter" parameter scores in the poor category (indicating threat to Wildlife Habitat beneficial uses) at three locations and on two different dates.

3. Photographic evidence has been evaluated that supports this decision.

4. Applying the Rapid Trash Assessment methodology to the photographic evidence suggests that this waterbody had "level of trash" parameter scores in the poor category (indicating impairment of non-contact water recreational beneficial uses) at location on two different dates. This waterbody also had "threat to aquatic life" parameter scores in the poor category (indicating threat to Wildlife Habitat beneficial uses) at one location on two different dates.

5. This waterbody is considered impaired by trash because there were exceedances of the evaluation guidelines (poor condition category for the trash assessment metrics) in more than one location or on more than one date.

6. The data used satisfy the data quality requirements of section 6.1.4 of the Policy.

7. The data used satisfy the data quantity requirements of section 6.1 of the Policy.

Lines of Evidence:

LOE ID:	5664
Pollutant:	Trash
Subgroup:	Pollutant-Nuisance
Beneficial Use:	Non-Contact Recreation
Matrix:	Not Specified
Fraction:	None
Number of Exceedances:	4
Number of Samples:	15
Data Used to Assess Water Quality:	Data results were obtained through application the RTA methodology, developed by the Surface Water Ambient Monitoring Program (SWAMP). The RTA documents the total number and characteristics of pieces of trash per one hundred

	feet of stream or shoreline. The trash assessment protocol involves picking up and tallying all of the trash items found within the defined boundaries of a site. The tally results for "level of trash" (relating to REC2) and "threat to aquatic life" (relating to WILD) assessment parameters were considered for the listing determination. These results are available for field visits/trash surveys conducted in October 2004 and November 2006 according to the Rapid Trash Assessment methodology. This waterbody had "level of trash" parameter scores in the poor category (indicating impairment of non-contact water recreational beneficial uses) at location on two different dates.
Data Reference(s):	Archive of Rapid Trash Assessment (RTA) data for San Mateo Creek submitted for 2008 303(d) list consideration
Water Quality Objective/Criterion:	Basin Plan prohibits discharge of "Rubbish, refuse, bark, sawdust, or other solid wastes into surface waters or at any place where they would contact or where they would be eventually transported to surface waters, including flood plain areas." Basin Plan has a narrative objective for floating material, "Waters shall not contain floating material, including solids, liquids, foams, and scum, in concentrations that cause nuisance or adversely affect beneficial uses." Basin Plan has a narrative objective for settleable material, "Waters shall not contain substances in concentrations that result in the deposition of material that cause nuisance or adversely affect beneficial uses."
Water Quality Objective/Criterion Reference(s):	San Francisco Bay Basin (Region 2) Water Quality Control Plan (Basin Plan)
Evaluation Guideline:	If the Rapid Trash Assessment (RTA) Parameter 1 (Level of Trash) is in the "poor condition category" (scores 0-5), REC2 is not supported. This level of trash "distracts the eye on first glance," making the site unsuitable for recreation. The RTA defines poor condition for this parameter as follows, "trash distracts the eye on first glance. Stream, bank surfaces, and immediate riparian zone contain substantial levels of litter and debris (>100 pieces). Evidence of site being used frequently by people: many cans, bottles, and food wrappers, blankets, clothing." If the RTA Parameter 3 (Threat to Aquatic Life) is in the poor condition category (scores 0-5), then WILD is not supported. This level of trash is a "large amount (>50 pieces) of transportable, persistent, buoyant litter" that is detrimental to aquatic life. The RTA defines poor condition for this parameter as follows, "large amount (>50 pieces) of transportable, persistent, buoyant litter such as: hard or soft plastics, balloons, Styrofoam, cigarette butts; toxic items such as batteries, lighters, or spray cans; large clumps of yard waste or dumped leaf litter; or large amount (>50 pieces) of settleable glass or metal."
Evaluation Guideline Reference(s):	A Rapid Trash Assessment Method Applied to Waters of the San Francisco Bay Region:Trash Measurement in Streams
Spatial Representation:	RTA data were collected for this waterbody in three locations in 2004 and 2006.
Temporal Representation:	RTA data were collected for this waterbody in October 2004 and November 2006.
Environmental Conditions:	
QAPP Information:	San Mateo program staff performed the initial October 2004 assessment jointly with Water Board staff to ensure that the assessment site was identical to the SWAMP location and that San Mateo program staff applied the protocol consistently to the SWAMP protocol.

LOE ID:	5666

Pollutant:	Trash
Subgroup:	Pollutant-Nuisance
Beneficial Use:	Non-Contact Recreation
Matrix:	Not Specified
Fraction:	None
Number of Exceedances:	2
Number of Samples:	2
Data Used to Assess Water Quality:	Data available consist of photographic evidence of trash and interpretation of these photos by an experienced trash assessment specialist. Each photograph was analyzed to establish the RTA score for the "level of trash" and "threat to aquatic life" parameters, which relate to impairment of REC2 and WILD, respectively. Only those photos clear enough to establish these RTA scores were relied on for the listing determination. These results are available for the following locations on San Mateo Creek: This waterbody had "level of trash" parameter scores in the poor category (indicating impairment of non-contact water recreational beneficial uses) at one location on two different dates.
Data Reference(s):	Report from Roger James and Larry Kolb containing Trash Photos submitted for consideration in 2008 303(d) listing process Assessment by Matt Cover of Trash Photos (submitted to Region 2 in response to 2008 Data Solicitation) Archive of Trash Photos for San Mateo Creek submitted for 2008 303(d) list consideration
Water Quality Objective/Criterion:	Basin Plan prohibits discharge of "Rubbish, refuse, bark, sawdust, or other solid wastes into surface waters or at any place where they would contact or where they would be eventually transported to surface waters, including flood plain areas." Basin Plan has a narrative objective for floating material, "Waters shall not contain floating material, including solids, liquids, foams, and scum, in concentrations that cause nuisance or adversely affect beneficial uses." Basin Plan has a narrative objective for settleable material, "Waters shall not contain substances in concentrations that result in the deposition of material that cause nuisance or adversely affect beneficial uses."
Water Quality Objective/Criterion Reference(s):	San Francisco Bay Basin (Region 2) Water Quality Control Plan (Basin Plan)
Evaluation Guideline:	If the Rapid Trash Assessment (RTA) Parameter 1 (Level of Trash) is in the "poor condition category" (scores 0-5), REC2 is not supported. This level of trash "distracts the eye on first glance," making the site unsuitable for recreation. The RTA defines poor condition for this parameter as follows, "trash distracts the eye on first glance. Stream, bank surfaces, and immediate riparian zone contain substantial levels of litter and debris (>100 pieces). Evidence of site being used frequently by people: many cans, bottles, and food wrappers, blankets, clothing." Regional Water Board staff trained in the RTA inspected the available photographic evidence and applied the assessment method to determine the Level of Trash score. If the RTA Parameter 3 (Threat to Aquatic Life) is in the poor condition category (scores 0-5), then WILD is not supported. This level of trash is a "large amount (>50 pieces) of transportable, persistent, buoyant litter" that is detrimental to

	aquatic life. The RTA defines poor condition for this parameter as follows, "large amount (>50 pieces) of transportable, persistent, buoyant litter such as: hard or soft plastics, balloons, Styrofoam, cigarette butts; toxic items such as batteries, lighters, or spray cans; large clumps of yard waste or dumped leaf litter; or large amount (>50 pieces) of settleable glass or metal." Regional Water Board staff trained in the RTA inspected the available photographic evidence and applied the assessment method to determine the Threat to Aquatic Life score.
Evaluation Guideline Reference(s):	A Rapid Trash Assessment Method Applied to Waters of the San Francisco Bay Region:Trash Measurement in Streams
Spatial Representation:	Photographic evidence was analyzed using the RTA methodology for this waterbody for a single location in 2003 and 2006.
Temporal Representation:	Photographic evidence was collected for this waterbody on two separate dates in 2003 and 2006.
Environmental Conditions:	
QAPP Information:	Assessments of the photographic evidence using the RTA were performed by Regional Water Board staff person who was a co-author of the Rapid Trash Assessment methodology. Assessments based on photographic evidence were only conducted when sufficient reach-scale and close-up photos were available for a site on a specific date. Photos used for the evaluation needed to be numerous enough and clear enough to document the level of trash at the site in a similar way as the assessor would experience during an actual site visit in the field. For example, at a minimum, one reach-scale photograph (showing at least a 100 linear foot section of the waterbody) and two close-up photographs (of representative trash deposits) were required.

LOE ID:	5665
Pollutant:	Trash
Subgroup:	Pollutant-Nuisance
Beneficial Use:	Wildlife Habitat
Matrix:	Not Specified
Fraction:	None
Number of Exceedances:	2
Number of Samples:	2
Data Used to Assess Water Quality:	Data available consist of photographic evidence of trash and interpretation of these photos by an experienced trash assessment specialist. Each photograph was analyzed to establish the RTA score for the "level of trash" and "threat to aquatic life" parameters, which relate to impairment of REC2 and WILD, respectively. Only those photos clear enough to establish these RTA scores were relied on for the listing determination. These results are available for one location on San Mateo Creek: This waterbody had "threat to aquatic life" parameter scores in the poor category (indicating threat to Wildlife Habitat beneficial uses) at one location on two different dates.
Data Reference(s):	Report from Roger James and Larry Kolb containing Trash Photos submitted for consideration in 2008 303(d) listing process Assessment by Matt Cover of Trash Photos (submitted to Region 2 in response to 2008 Data Solicitation)

	Archive of Trash Photos for San Mateo Creek submitted for 2008 303(d) list consideration
Water Quality Objective/Criterion:	Basin Plan prohibits discharge of "Rubbish, refuse, bark, sawdust, or other solid wastes into surface waters or at any place where they would contact or where they would be eventually transported to surface waters, including flood plain areas." Basin Plan has a narrative objective for floating material, "Waters shall not contain floating material, including solids, liquids, foams, and scum, in concentrations that cause nuisance or adversely affect beneficial uses." Basin Plan has a narrative objective for settleable material, "Waters shall not contain substances in concentrations that result in the deposition of material that cause nuisance or adversely affect beneficial uses."
Water Quality Objective/Criterion Reference(s):	San Francisco Bay Basin (Region 2) Water Quality Control Plan (Basin Plan)
Evaluation Guideline:	If the Rapid Trash Assessment (RTA) Parameter 1 (Level of Trash) is in the "poor condition category" (scores 0-5), REC2 is not supported. This level of trash "distracts the eye on first glance," making the site unsuitable for recreation. The RTA defines poor condition for this parameter as follows, "trash distracts the eye on first glance. Stream, bank surfaces, and immediate riparian zone contain substantial levels of litter and debris (>100 pieces). Evidence of site being used frequently by people: many cans, bottles, and food wrappers, blankets, clothing." Regional Water Board staff trained in the RTA inspected the available photographic evidence and applied the assessment method to determine the Level of Trash score. If the RTA Parameter 3 (Threat to Aquatic Life) is in the poor condition category (scores 0-5), then WILD is not supported. This level of trash is a "large amount (>50 pieces) of transportable, persistent, buoyant litter" that is detrimental to aquatic life. The RTA defines poor condition for this parameter as follows, "large amount (>50 pieces) of transportable, persistent, buoyant litter such as: hard or soft plastics, balloons, Styrofoam, cigarette butts; toxic items such as batteries, lighters, or spray cans; large clumps of yard waste or dumped leaf litter; or large amount (>50 pieces) of settleable glass or metal." Regional Water Board staff trained in the RTA inspected the available photographic evidence and applied the assessment method to determine the Threat to Aquatic Life score.
Evaluation Guideline Reference(s):	A Rapid Trash Assessment Method Applied to Waters of the San Francisco Bay Region:Trash Measurement in Streams
Spatial Representation:	Photographic evidence was analyzed using the RTA methodology for this waterbody for a single location in 2003 and 2006.
Temporal Representation:	Photographic evidence was collected for this waterbody on two separate dates in 2003 and 2006.
Environmental Conditions:	
QAPP Information:	Assessments of the photographic evidence using the RTA were performed by Regional Water Board staff person who was a co-author of the Rapid Trash Assessment methodology. Assessments based on photographic evidence were only conducted when sufficient reach-scale and close-up photos were available for a site on a specific date. Photos used for the evaluation needed to be numerous enough and clear enough to document the level of trash at the site in a similar way as the assessor would experience during an actual site visit in the field. For example, at a minimum, one reach-scale photograph (showing at least a 100 linear foot section

	of the waterbody) and two close-up photographs (of representative trash deposits) were required.
LOE ID:	5663
Pollutant:	Trash
Subgroup:	Pollutant-Nuisance
Beneficial Use:	Wildlife Habitat
Matrix:	Not Specified
Fraction:	None
Number of Exceedances:	7
Number of Samples:	15
Data Used to Assess Water Quality:	Data results were obtained through application the RTA methodology, developed by the Surface Water Ambient Monitoring Program (SWAMP). The RTA documents the total number and characteristics of pieces of trash per one hundred feet of stream or shoreline. The trash assessment protocol involves picking up and tallying all of the trash items found within the defined boundaries of a site. The tally results for "level of trash" (relating to REC2) and "threat to aquatic life" (relating to WILD) assessment parameters were considered for the listing determination. These results are available for field visits/trash surveys conducted in October 2004 and November 2006 according to the Rapid Trash Assessment methodology. This waterbody had "transportable, Persistent, Buoyant Litter" parameter scores in the poor category (indicating threat to Wildlife Habitat beneficial uses) at three locations and on two different dates.
Data Reference(s):	Archive of Rapid Trash Assessment (RTA) data for San Mateo Creek submitted for 2008 303(d) list consideration
Water Quality Objective/Criterion:	Basin Plan prohibits discharge of "Rubbish, refuse, bark, sawdust, or other solid wastes into surface waters or at any place where they would contact or where they would be eventually transported to surface waters, including flood plain areas." Basin Plan has a narrative objective for floating material, "Waters shall not contain floating material, including solids, liquids, foams, and scum, in concentrations that cause nuisance or adversely affect beneficial uses." Basin Plan has a narrative objective for settleable material, "Waters shall not contain substances in concentrations that result in the deposition of material that cause nuisance or adversely affect beneficial uses."
Water Quality Objective/Criterion Reference(s):	San Francisco Bay Basin (Region 2) Water Quality Control Plan (Basin Plan)
Evaluation Guideline:	If the Rapid Trash Assessment (RTA) Parameter 1 (Level of Trash) is in the "poor condition category" (scores 0-5), REC2 is not supported. This level of trash "distracts the eye on first glance," making the site unsuitable for recreation. The RTA defines poor condition for this parameter as follows, "trash distracts the eye on first glance. Stream, bank surfaces, and immediate riparian zone contain substantial levels of litter and debris (>100 pieces). Evidence of site being used frequently by people: many cans, bottles, and food wrappers, blankets, clothing." If the RTA Parameter 3 (Threat to Aquatic Life) is in the poor condition category

	(scores 0-5), then WILD is not supported. This level of trash is a "large amount (>50 pieces) of transportable, persistent, buoyant litter" that is detrimental to aquatic life. The RTA defines poor condition for this parameter as follows, "large amount (>50 pieces) of transportable, persistent, buoyant litter such as: hard or soft plastics, balloons, Styrofoam, cigarette butts; toxic items such as batteries, lighters, or spray cans; large clumps of yard waste or dumped leaf litter; or large amount (>50 pieces) of settleable glass or metal."
Evaluation Guideline Reference(s):	A Rapid Trash Assessment Method Applied to Waters of the San Francisco Bay Region:Trash Measurement in Streams
Spatial Representation:	RTA data were collected for this waterbody in three locations in 2004 and 2006.
Temporal Representation:	RTA data were collected for this waterbody in October 2004 and November 2006.
Environmental Conditions:	
QAPP Information:	San Mateo program staff performed the initial October 2004 assessment jointly with Water Board staff to ensure that the assessment site was identical to the SWAMP location and that San Mateo program staff applied the protocol consistently to the SWAMP protocol.

San Pablo Creek — Trash

Decision ID: 7657

Pollutant: Trash

Status: Decision in Progress

Weight of Evidence: This pollutant is being considered for placement on the section 303(d) list under section 3.11 of the Listing Policy. Under section 3.11, listing may be proposed based on the situation-specific weight of evidence.

One line of evidence is available in the administrative record to assess this pollutant. The line of evidence consists of data from field visits/trash surveys conducted according to the Rapid Trash Assessment (RTA) methodology.

Based on the readily available trash assessment data for this waterbody, the weight of evidence indicates that there is sufficient justification available in favor of placing this water segment-pollutant combination to the section 303(d) list in the Water Quality Limited Segments category.

This conclusion is based on the staff findings that:

1. Data have been evaluated that supports this decision.

2. The Rapid Trash Assessment methodology results showed that this waterbody had "level of trash" scores in the poor category (indicating impairment of non-contact water recreational beneficial use) at two different locations and on two different dates.

3. The temporal and spatial extent of this poor condition affords a substantial basis in fact from which the listing decision can be reasonably inferred. Namely, this waterbody is considered impaired by trash because there were exceedances of the evaluation guideline (poor condition category for the trash assessment metric) in more than one location or on more than one date.

4. The data used satisfy the data quality requirements of section 6.1.4 of the Policy.

5. The data used satisfy the data quantity requirements of section 6.1 of the Policy.

Lines of Evidence:

LOE ID:	5661
Pollutant:	Trash
Subgroup:	Pollutant-Nuisance
Beneficial Use:	Non-Contact Recreation
Matrix:	Not Specified
Fraction:	None
Number of Exceedances:	3
Number of Samples:	3
Data Used to Assess Water	Data results were obtained through application the RTA methodology, developed

Quality:	by the Surface Water Ambient Monitoring Program (SWAMP). The RTA documents the total number and characteristics of pieces of trash per one hundred feet of stream or shoreline. The trash assessment protocol involves picking up and tallying all of the trash items found within the defined boundaries of a site. The tally results for "level of trash" (relating to REC2) and "threat to aquatic life" (relating to WILD) assessment parameters were considered for the listing determination. These results are available for field visits/trash surveys conducted in July 2002 according to the Rapid Trash Assessment methodology. This waterbody had "level of trash" scores in the poor category (indicating impairment of non-contact water recreational beneficial use) at two different locations and on two different dates.
Data Reference(s):	Rapid Trash Assessment (RTA) data collected by the SF Bay Region Surface Water Ambient Monitoring Program from 2002-2005 and method description
Water Quality Objective/Criterion:	Basin Plan prohibits discharge of "Rubbish, refuse, bark, sawdust, or other solid wastes into surface waters or at any place where they would contact or where they would be eventually transported to surface waters, including flood plain areas." Basin Plan has a narrative objective for floating material, "Waters shall not contain floating material, including solids, liquids, foams, and scum, in concentrations that cause nuisance or adversely affect beneficial uses." Basin Plan has a narrative objective for settleable material, "Waters shall not contain substances in concentrations that result in the deposition of material that cause nuisance or adversely affect beneficial uses."
Water Quality Objective/Criterion Reference(s):	San Francisco Bay Basin (Region 2) Water Quality Control Plan (Basin Plan)
Evaluation Guideline:	If the Rapid Trash Assessment (RTA) Parameter 1 (Level of Trash) is in the "poor condition category" (scores 0-5), REC2 is not supported. This level of trash "distracts the eye on first glance," making the site unsuitable for recreation. The RTA defines poor condition for this parameter as follows, "trash distracts the eye on first glance. Stream, bank surfaces, and immediate riparian zone contain substantial levels of litter and debris (>100 pieces). Evidence of site being used frequently by people: many cans, bottles, and food wrappers, blankets, clothing."
Evaluation Guideline Reference(s):	A Rapid Trash Assessment Method Applied to Waters of the San Francisco Bay Region:Trash Measurement in Streams
Spatial Representation:	RTA data were collected for this waterbody in two different locations in July 2002 and both locations scored in the "poor condition" category for the "Level of Trash" parameter.
Temporal Representation:	RTA data were collected on two different dates, July 18, and 30 2002, and data from both dates were in the "poor condition" category for the "Level of Trash" parameter.
Environmental Conditions:	
QAPP Information:	For RTA trash assessment data to be considered, the data must have been collected by field operators that have received a 2-hour training in the Rapid Trash Assessment methodology.

San Tomas Aquinas Creek — Trash

Decision ID: 7658

Pollutant: Trash

Status: Decision in Progress

Weight of Evidence: This pollutant is being considered for placement on the section 303(d) list under section 3.11 of the Listing Policy. Under section 3.11, listing may be proposed based on the situation-specific weight of evidence.

One line of evidence is available in the administrative record to assess this pollutant. The line of evidence consists of data from field visits/trash surveys conducted according to the Urban Rapid Trash Assessment (URTA) methodology developed by the Santa Clara Valley Urban Runoff Pollution Prevention Program (SCVURPPP).

Based on the readily available trash assessment data for this waterbody, the weight of evidence indicates that there is sufficient justification available in favor of placing this water segment-pollutant combination to the section 303(d) list in the Water Quality Limited Segments category.

This conclusion is based on the staff findings that:

1. Data have been evaluated that supports this decision.

2. The Urban Rapid Trash Assessment methodology results showed that this waterbody had "transportable, Persistent, Buoyant Litter" parameter scores in the marginal urban and poor category (indicating threat to Wildlife Habitat beneficial uses) at three locations on two different dates in 2004 and 2006.

3. This waterbody is considered impaired by trash because there were exceedances of the evaluation guideline (poor condition category for the trash assessment metric) in more than one location or on more than one date.

4. The data used satisfy the data quality requirements of section 6.1.4 of the Policy.

5. The data used satisfy the data quantity requirements of section 6.1 of the Policy.

Lines of Evidence:

LOE ID:	5536
Pollutant:	Trash
Subgroup:	Pollutant-Nuisance
Beneficial Use:	Wildlife Habitat
Matrix:	Not Specified
Fraction:	None
Number of Exceedances:	5
Number of Samples:	5
Data Used to Assess Water	Data results were obtained through application of the Urban Rapid Trash

Quality:	Assessment (URTA) methodology, developed by the Santa Clara Valley Urban Runoff Pollution Prevention Program. The URTA is a modification of the Rapid Trash Assessment (RTA) developed by the Surface Water Ambient Monitoring Program (SWAMP). The URTA method documents the total number and characteristics of pieces of trash per one hundred feet of stream or shoreline. The trash assessment protocol involves picking up and tallying all of the trash items found within the defined boundaries of a site. The tally results for "level of trash" (relating to REC2) and "transportable, persistent, buoyant litter" (relating to WILD) assessment parameters were considered for the listing determination. These results are available for visits/trash surveys conducted in December 2004 and October 2006 according to the Urban Rapid Trash Assessment (URTA) methodology. This waterbody had "transportable, Persistent, Buoyant Litter" parameter scores in the marginal urban and poor category (indicating threat to Wildlife Habitat beneficial uses) at three locations on two different dates in 2004 and 2006.
Data Reference(s):	Memo: Development of Urban Rapid Trash Assessment Protocol. March 13, 2006 Spreadsheet of Urban Rapid Trash Assessment (URTA) data collected by the Santa Clara Valley Urban Runoff Pollution Prevention Program, 2004-2007
Water Quality Objective/Criterion:	Basin Plan prohibits discharge of "Rubbish, refuse, bark, sawdust, or other solid wastes into surface waters or at any place where they would contact or where they would be eventually transported to surface waters, including flood plain areas." Basin Plan has a narrative objective for floating material, "Waters shall not contain floating material, including solids, liquids, foams, and scum, in concentrations that cause nuisance or adversely affect beneficial uses." Basin Plan has a narrative objective for settleable material, "Waters shall not contain substances in concentrations that result in the deposition of material that cause nuisance or adversely affect beneficial uses."
Water Quality Objective/Criterion Reference(s):	San Francisco Bay Basin (Region 2) Water Quality Control Plan (Basin Plan)
Evaluation Guideline:	If the URTA Parameter 3 (Transportable, Persistent, Buoyant Litter) is in the marginal urban or poor condition category (scores 0-10), then WILD is not supported. The URTA defines marginal urban or poor condition for this parameter as follows. this level of trash is a "medium prevalence (76-200 pieces)" or "large amount (>200 pieces) of transportable, persistent, buoyant litter such as: hard or soft plastics, styrofoam, balloons, cigarette butts". These types of items are all detrimental to aquatic life.
Evaluation Guideline Reference(s):	Memo: Development of Urban Rapid Trash Assessment Protocol. March 13, 2006
Spatial Representation:	URTA data were collected for this waterbody in three locations in December 2004 and October 2006.
Temporal Representation:	URTA data were collected for this waterbody on two dates in December 2004 and October 2006.
QAPP Information:	Data were collected by trained staff in accordance with URTA methodology developed by SCVURPPP and are deemed reliable and of sufficient quality on which to base listing determinations.

Saratoga Creek — Trash

Decision ID: 7662

Pollutant: Trash
Status: Decision in Progress
Weight of Evidence: This pollutant is being considered for placement on the section 303(d) list under section 3.11 of the Listing Policy. Under section 3.11, listing may be proposed based on the situation-specific weight of evidence.

One line of evidence is available in the administrative record to assess this pollutant. The line of evidence consists of data from field visits/trash surveys conducted according to the Urban Rapid Trash Assessment (URTA) methodology developed by the Santa Clara Valley Urban Runoff Pollution Prevention Program (SCVURPPP).

Based on the readily available trash assessment data for this waterbody, the weight of evidence indicates that there is sufficient justification available in favor of placing this water segment-pollutant combination to the section 303(d) list in the Water Quality Limited Segments category.

This conclusion is based on the staff findings that:

1. Data have been evaluated that supports this decision.

2. The Urban Rapid Trash Assessment methodology results showed that this waterbody had "transportable, Persistent, Buoyant Litter" parameter scores in the marginal urban and poor category (indicating threat to Wildlife Habitat beneficial uses) at one location on two different dates in 2004 and 2006.

3. This waterbody is considered impaired by trash because there were exceedances of the evaluation guideline (poor condition category for the trash assessment metric) in more than one location or on more than one date.

4. The data used satisfy the data quality requirements of section 6.1.4 of the Policy.

5. The data used satisfy the data quantity requirements of section 6.1 of the Policy.

Lines of Evidence:

LOE ID: 5662
Pollutant: Trash
Subgroup: Pollutant-Nuisance
Beneficial Use: Wildlife Habitat
Matrix: Not Specified
Fraction: None
Number of Exceedances: 2
Number of Samples: 2
Data Used to Assess Water: Data results were obtained through application of the Urban Rapid Trash

Quality:	Assessment (URTA) methodology, developed by the Santa Clara Valley Urban Runoff Pollution Prevention Program. The URTA is a modification of the Rapid Trash Assessment (RTA) developed by the Surface Water Ambient Monitoring Program (SWAMP). The URTA method documents the total number and characteristics of pieces of trash per one hundred feet of stream or shoreline. The trash assessment protocol involves picking up and tallying all of the trash items found within the defined boundaries of a site. The tally results for "level of trash" (relating to REC2) and "transportable, persistent, buoyant litter" (relating to WILD) assessment parameters were considered for the listing determination. These results are available for field visits/trash surveys conducted in December 2004 and October 2006 according to the Urban Rapid Trash Assessment (URTA) methodology. This waterbody had "transportable, Persistent, Buoyant Litter" parameter scores in the marginal urban and poor category (indicating threat to Wildlife Habitat beneficial uses) at one location on two different dates in 2004 and 2006.
Data Reference(s):	Spreadsheet of Urban Rapid Trash Assessment (URTA) data collected by the Santa Clara Valley Urban Runoff Pollution Prevention Program, 2004-2007
Water Quality Objective/Criterion:	Basin Plan prohibits discharge of "Rubbish, refuse, bark, sawdust, or other solid wastes into surface waters or at any place where they would contact or where they would be eventually transported to surface waters, including flood plain areas." Basin Plan has a narrative objective for floating material, "Waters shall not contain floating material, including solids, liquids, foams, and scum, in concentrations that cause nuisance or adversely affect beneficial uses." Basin Plan has a narrative objective for settleable material, "Waters shall not contain substances in concentrations that result in the deposition of material that cause nuisance or adversely affect beneficial uses."
Water Quality Objective/Criterion Reference(s):	San Francisco Bay Basin (Region 2) Water Quality Control Plan (Basin Plan)
Evaluation Guideline:	If the URTA Parameter 3 (Transportable, Persistent, Buoyant Litter) is in the marginal urban or poor condition category (scores 0-10), then WILD is not supported. The URTA defines marginal urban or poor condition for this parameter as follows. this level of trash is a "medium prevalence (76-200 pieces)" or "large amount (>200 pieces) of transportable, persistent, buoyant litter such as: hard or soft plastics, styrofoam, balloons, cigarette butts". These types of items are all detrimental to aquatic life.
Evaluation Guideline Reference(s):	Memo: Development of Urban Rapid Trash Assessment Protocol. March 13, 2006
Spatial Representation:	URTA data were collected for this waterbody at one location in December 2004 and October 2006.
Temporal Representation:	URTA data were collected for this waterbody on two dates in December 2004 and October 2006.
Environmental Conditions:	
QAPP Information:	Data were collected by trained staff in accordance with URTA methodology developed by SCVURPPP and are deemed reliable and of sufficient quality on which to base listing determinations.

Sausal Creek — Trash

Decision ID: 7663

Pollutant: Trash
Status: Decision in Progress
Weight of Evidence: This pollutant is being considered for placement on the section 303(d) list under section 3.11 of the Listing Policy. Under section 3.11, listing may be proposed based on the situation-specific weight of evidence.

One line of evidence is available in the administrative record to assess this pollutant. The line of evidence consists of data from field visits/trash surveys conducted according to the Rapid Trash Assessment (RTA) methodology.

Based on the readily available trash assessment data for this waterbody, the weight of evidence indicates that there is sufficient justification available in favor of placing this water segment-pollutant combination to the section 303(d) list in the Water Quality Limited Segments category.

This conclusion is based on the staff findings that:

1. Data have been evaluated that supports this decision.

2. The Rapid Trash Assessment methodology results showed that this waterbody had “threat to aquatic life” parameter scores in the poor category (indicating threat to Wildlife Habitat beneficial uses) on three different dates.

3. This waterbody is considered impaired by trash because there were exceedances of the evaluation guideline (poor condition category for the trash assessment metric) in more than one location or on more than one date.

4. The data used satisfy the data quality requirements of section 6.1.4 of the Policy.

5. The data used satisfy the data quantity requirements of section 6.1 of the Policy.

Lines of Evidence:

LOE ID:	5369
Pollutant:	Trash
Subgroup:	Pollutant-Nuisance
Beneficial Use:	Wildlife Habitat
Matrix:	Not Specified
Fraction:	None
Number of Exceedances:	3
Number of Samples:	3
Data Used to Assess Water Quality:	Data results were obtained through application the RTA methodology, developed by the Surface Water Ambient Monitoring Program (SWAMP). The RTA documents the total number and characteristics of pieces of trash per one hundred feet of stream or shoreline. The trash assessment protocol involves picking up and

	tallying all of the trash items found within the defined boundaries of a site. The tally results for "level of trash" (relating to REC2) and "threat to aquatic life" (relating to WILD) assessment parameters were considered for the listing determination. These results are available for field visits/trash surveys conducted in August and December 2004 and June 2005 according to the Rapid Trash Assessment methodology. This waterbody had "threat to aquatic life" parameter scores in the poor category (indicating threat to Wildlife Habitat beneficial uses) on three different dates.
Data Reference(s):	A Rapid Trash Assessment Method Applied to Waters of the San Francisco Bay Region:Trash Measurement in Streams Rapid Trash Assessment (RTA) data collected by the SF Bay Region Surface Water Ambient Monitoring Program from 2002-2005 and method description
Water Quality Objective/Criterion:	Basin Plan prohibits discharge of "Rubbish, refuse, bark, sawdust, or other solid wastes into surface waters or at any place where they would contact or where they would be eventually transported to surface waters, including flood plain areas." Basin Plan has a narrative objective for floating material, "Waters shall not contain floating material, including solids, liquids, foams, and scum, in concentrations that cause nuisance or adversely affect beneficial uses." Basin Plan has a narrative objective for settleable material, "Waters shall not contain substances in concentrations that result in the deposition of material that cause nuisance or adversely affect beneficial uses."
Water Quality Objective/Criterion Reference(s):	San Francisco Bay Basin (Region 2) Water Quality Control Plan (Basin Plan)
Evaluation Guideline:	If the Rapid Trash Assessment (RTA) Parameter 1 (Level of Trash) is in the "poor condition category" (scores 0-5), REC2 is not supported. This level of trash "distracts the eye on first glance," making the site unsuitable for recreation. The RTA defines poor condition for this parameter as follows, "trash distracts the eye on first glance. Stream, bank surfaces, and immediate riparian zone contain substantial levels of litter and debris (>100 pieces). Evidence of site being used frequently by people: many cans, bottles, and food wrappers, blankets, clothing." If the RTA Parameter 3 (Threat to Aquatic Life) is in the poor condition category (scores 0-5), then WILD is not supported. This level of trash is a "large amount (>50 pieces) of transportable, persistent, buoyant litter" that is detrimental to aquatic life. The RTA defines poor condition for this parameter as follows, "large amount (>50 pieces) of transportable, persistent, buoyant litter such as: hard or soft plastics, balloons, Styrofoam, cigarette butts; toxic items such as batteries, lighters, or spray cans; large clumps of yard waste or dumped leaf litter; or large amount (>50 pieces) of settleable glass or metal."
Evaluation Guideline Reference(s):	A Rapid Trash Assessment Method Applied to Waters of the San Francisco Bay Region:Trash Measurement in Streams
Spatial Representation:	RTA data were collected for this waterbody in one location in 2004 and 2005. This location scored in the "poor condition" category for the "threat to aquatic life" parameter.
Temporal Representation:	RTA data were collected for this waterbody in August and December 2004 and June 2005. Data from all three months scored in the "poor condition" category for the "threat to aquatic life" parameter.
Environmental Conditions:	
QAPP Information:	For RTA trash assessment data to be considered, the data must have been collected by field operators that have received a 2-hour training in the Rapid Trash Assessment methodology.

Silver Creek (Santa Clara County) Trash

Decision ID: 7668

Pollutant: Trash
Status: Decision in Progress
Weight of Evidence: This pollutant is being considered for placement on the section 303(d) list under section 3.11 of the Listing Policy. Under section 3.11, listing may be proposed based on the situation-specific weight of evidence.

One line of evidence is available in the administrative record to assess this pollutant. The line of evidence consists of data from field visits/trash surveys conducted according to the Urban Rapid Trash Assessment (URTA) methodology developed by the Santa Clara Valley Urban Runoff Pollution Prevention Program (SCVURPPP).

Based on the readily available trash assessment data for this waterbody, the weight of evidence indicates that there is sufficient justification available in favor of placing this water segment-pollutant combination to the section 303(d) list in the Water Quality Limited Segments category.

This conclusion is based on the staff findings that:

1. Data have been evaluated that supports this decision.

2. The Urban Rapid Trash Assessment methodology results showed that this waterbody had "transportable, Persistent, Buoyant Litter" parameter scores in the marginal urban and poor category (indicating threat to Wildlife Habitat beneficial uses) at two different locations on the only date monitored.

3. This waterbody is considered impaired by trash because there were exceedances of the evaluation guideline (poor condition category for the trash assessment metric) in more than one location or on more than one date.

4. The data used satisfy the data quality requirements of section 6.1.4 of the Policy.

5. The data used satisfy the data quantity requirements of section 6.1 of the Policy.

Lines of Evidence:

LOE ID: 5539
Pollutant: Trash
Subgroup: Pollutant-Nuisance
Beneficial Use: Wildlife Habitat
Matrix: Not Specified
Fraction: None
Number of Exceedances: 2
Number of Samples: 3
Data Used to Assess Water: Data results were obtained through application of the Urban Rapid Trash

Quality:	Assessment (URTA) methodology, developed by the Santa Clara Valley Urban Runoff Pollution Prevention Program. The URTA is a modification of the Rapid Trash Assessment (RTA) developed by the Surface Water Ambient Monitoring Program (SWAMP). The URTA method documents the total number and characteristics of pieces of trash per one hundred feet of stream or shoreline. The trash assessment protocol involves picking up and tallying all of the trash items found within the defined boundaries of a site. The tally results for "level of trash" (relating to REC2) and "transportable, persistent, buoyant litter" (relating to WILD) assessment parameters were considered for the listing determination. These results are available for field visits/trash surveys conducted in March 2005, according to the Urban Rapid Trash Assessment (URTA) methodology. This waterbody had "transportable, Persistent, Buoyant Litter" parameter scores in the marginal urban and poor category (indicating threat to Wildlife Habitat beneficial uses) at two different locations on the only date monitored.
Data Reference(s):	Memo: Development of Urban Rapid Trash Assessment Protocol. March 13, 2006 Spreadsheet of Urban Rapid Trash Assessment (URTA) data collected by the Santa Clara Valley Urban Runoff Pollution Prevention Program, 2004-2007
Water Quality Objective/Criterion:	Basin Plan prohibits discharge of "Rubbish, refuse, bark, sawdust, or other solid wastes into surface waters or at any place where they would contact or where they would be eventually transported to surface waters, including flood plain areas." Basin Plan has a narrative objective for floating material, "Waters shall not contain floating material, including solids, liquids, foams, and scum, in concentrations that cause nuisance or adversely affect beneficial uses." Basin Plan has a narrative objective for settleable material, "Waters shall not contain substances in concentrations that result in the deposition of material that cause nuisance or adversely affect beneficial uses."
Water Quality Objective/Criterion Reference(s):	San Francisco Bay Basin (Region 2) Water Quality Control Plan (Basin Plan)
Evaluation Guideline:	If the URTA Parameter 3 (Transportable, Persistent, Buoyant Litter) is in the marginal urban or poor condition category (scores 0-10), then WILD is not supported. The URTA defines marginal urban or poor condition for this parameter as follows. this level of trash is a "medium prevalence (76-200 pieces)" or "large amount (>200 pieces) of transportable, persistent, buoyant litter such as: hard or soft plastics, styrofoam, balloons, cigarette butts". These types of items are all detrimental to aquatic life.
Evaluation Guideline Reference(s):	Memo: Development of Urban Rapid Trash Assessment Protocol. March 13, 2006
Spatial Representation:	URTA data were collected for this waterbody in three locations in March 2005.
Temporal Representation:	URTA data were collected for this waterbody on only one date in March 2005.
Environmental Conditions:	
QAPP Information:	Data were collected by trained staff in accordance with URTA methodology developed by SCVURPPP and are deemed reliable and of sufficient quality on which to base listing determinations.

Stevens Creek

Temperature | Trash

Decision ID: 9162

Pollutant: Temperature, water

Status: Decision in Progress

Weight of Evidence: This pollutant is being considered for listing under sections 3.2 of the Listing Policy. Under section 3.2 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. A sufficient number of samples exceed the water quality objective.

Based on the readily available data for this waterbody, the weight of evidence indicates that there is sufficient justification available in favor of adding this water segment-pollutant combination to the section 303(d) list in the Water Quality Limited Segments category.

This conclusion is based on the staff findings that:

1. The data concerning current conditions and supporting the listing decision were collected as part of the SWAMP and satisfy the data quality requirements of section 6.1.4 of the Policy.

2. The data used satisfy the data quantity requirements of section 6.1.5 of the Policy.

3. Temperature measurements at 6 out of 11 continuous deployments exceeded the 17 °C evaluation guideline used to interpret the water quality objective for waters designated as cold water habitat and this exceeds the allowable frequency listed in Table 3.2 of the Listing Policy.

4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Lines of Evidence:

LOE ID:	8543
Pollutant:	Temperature, water
Subgroup:	Pollutant-Water
Beneficial Use:	Cold Freshwater Habitat
Aquatic Life Use:	Wildlife Habitat
Matrix:	Water
Fraction:	None
Number of Exceedances:	6
Number of Samples:	11
Data Used to Asses Water Quality:	Water quality assessment was conducted at the Stevens Creek watershed as part of SWAMP assessment. Continuous field monitoring at 15 minute increments of

	temperature, dissolved oxygen, pH and specific conductance was conducted to determine temporal variability in basic water quality at five locations throughout the watershed. The measured temperatures ranged from 9.3°C to 25.5 °C and varied with season and location. The 17 °C criterion for steelhead was exceeded in 6 out of 11 deployments. Five exceedances were recorded in the dry season and 1 was measured in the wet season. High water temperature exceeding 24 °C, that is a maximum short exposure temperature for survival of salmonids (EPA 1977) was also measured at one monitoring location at lower reach of the Creek during summer dry season. At this monitoring site the leathal temperature for salmonids (< 24°C) persisted for 4.25 hours.
Data Reference(s):	Water Quality Monitoring and Bioassessment in Nine San Francisco Bay Region Watersheds: Walker Creek, Lagunitas Creek, San Leandro Creek, Wildcat Creek/San Pablo Creek, Suisun Creek, Arroyo Las Positas, Pescadero Creek/Butano Creek, San Gregorio Creek, and Stevens Creek/Permanente Creek. Oakland, CA: Surface Water Ambient Monitoring Program, San Francisco Bay Regional Water Quality Control Board. Temperature criteria for freshwater fish: protocol and procedures. Ecological Research Series. EPA-600/3-77-061 (NTIS PB270032). Prepared by W.A. Brungs and B.R. Jones. U.S. Environmental Protection Agency, Washington, D.C
Water Quality Objective/Criterion:	Temperature objectives for enclosed bays and estuaries are specified in the "Water Quality Control Plan for Control of Temperature in the Coastal and Interstate Waters and Enclosed Bays of California" including any revisions to the plan. In addition, the following temperature objectives apply to surface waters: The natural receiving water temperature of intrastate waters shall not be altered unless it can be demonstrated to the satisfaction of the Regional Water Board that such alteration in temperature does not adversely affect beneficial uses. The temperature of any cold or warm freshwater habitat shall not be increased by more than 5°F (2.8^{o} C) above natural receiving water temperature.
Water Quality Objective/Criterion Reference(s):	San Francisco Bay Basin (Region 2) Water Quality Control Plan (Basin Plan)
Evaluation Guideline:	Sullivan et al. (2000) reviewed a wide range of studies incorporating information from laboratory-based research, field observations, and risk assessment approaches and developed criteria for assessing temperature risk to aquatic life. The 7-day mean temperature (maximum value of the 7-day moving average of the daily mean temperature) of 14.8°C was established as the upper threshold criterion for coho salmon and 17.0°C for steelhead trout. The risk assessment approach used by Sullivan et al. (2000) suggests that temperatures exceeding the above thresholds will cause 10% reduction in average growth compared to optimal conditions.
Evaluation Guideline Reference(s):	An Analysis of the Effects of Temperature on Salmonids of the Pacific Northwest with Implications for Selecting Temperature Criteria
Spatial Representation:	Temperature was measured at four sites located on the mainstem of Stevens Creek. The highest temperatures were recorded at the most downstream location in July 2003. High temperatures exceeding the threshold for steelhead were measured in most parts of the creek with the exception of the upper reach.
Temporal Representation:	In 2002 and 2003 the SWAMP Program performed continuous monitoring of temperature at 15 minute intervals for periods of 1-2 weeks in each of three different seasons: winter wet season (3 sites), spring runoff season (1 site), and summer dry season (7 sites).

Environmental Conditions:

QAPP Information:	All samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB 2002).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. December 2002 (1st version)

Decision ID: 7669

Pollutant: Trash

Status: Decision in Progress

Weight of Evidence: This pollutant is being considered for placement on the section 303(d) list under section 3.11 of the Listing Policy. Under section 3.11, listing may be proposed based on the situation-specific weight of evidence.

One line of evidence is available in the administrative record to assess this pollutant. The line of evidence consists of data from field visits/trash surveys conducted according to the Urban Rapid Trash Assessment (URTA) methodology developed by the Santa Clara Valley Urban Runoff Pollution Prevention Program (SCVURPPP).

Based on the readily available trash assessment data for this waterbody, the weight of evidence indicates that there is sufficient justification available in favor of placing this water segment-pollutant combination to the section 303(d) list in the Water Quality Limited Segments category.

This conclusion is based on the staff findings that:

1. Data have been evaluated that supports this decision.

2. The Urban Rapid Trash Assessment methodology results showed that this waterbody had "transportable, Persistent, Buoyant Litter" parameter scores in the marginal urban and poor category (indicating threat to Wildlife Habitat beneficial uses) at three locations on three different dates in 2004, 2006 and 2007.

3. This waterbody is considered impaired by trash because there were exceedances of the evaluation guideline (poor condition category for the trash assessment metric) in more than one location or on more than one date.

4. The data used satisfy the data quality requirements of section 6.1.4 of the Policy.

5. The data used satisfy the data quantity requirements of section 6.1 of the Policy.

Lines of Evidence:

LOE ID:	5540
Pollutant:	Trash
Subgroup:	Pollutant-Nuisance
Beneficial Use:	Wildlife Habitat
Matrix:	Not Specified

Fraction:	None
Number of Exceedances:	4
Number of Samples:	11
Data Used to Assess Water Quality:	Data results were obtained through application of the Urban Rapid Trash Assessment (URTA) methodology, developed by the Santa Clara Valley Urban Runoff Pollution Prevention Program. The URTA is a modification of the Rapid Trash Assessment (RTA) developed by the Surface Water Ambient Monitoring Program (SWAMP). The URTA method documents the total number and characteristics of pieces of trash per one hundred feet of stream or shoreline. The trash assessment protocol involves picking up and tallying all of the trash items found within the defined boundaries of a site. The tally results for "level of trash" (relating to REC2) and "transportable, persistent, buoyant litter" (relating to WILD) assessment parameters were considered for the listing determination. These results are available for field visits/trash surveys conducted in 2004 through 2007 according to the Urban Rapid Trash Assessment (URTA) methodology. This waterbody had "transportable, Persistent, Buoyant Litter" parameter scores in the marginal urban and poor category (indicating threat to Wildlife Habitat beneficial uses) at three locations on three different dates in 2004, 2006 and 2007.
Data Reference(s):	Memo: Development of Urban Rapid Trash Assessment Protocol. March 13, 2006 Spreadsheet of Urban Rapid Trash Assessment (URTA) data collected by the Santa Clara Valley Urban Runoff Pollution Prevention Program, 2004-2007
Water Quality Objective/Criterion:	Basin Plan prohibits discharge of "Rubbish, refuse, bark, sawdust, or other solid wastes into surface waters or at any place where they would contact or where they would be eventually transported to surface waters, including flood plain areas." Basin Plan has a narrative objective for floating material, "Waters shall not contain floating material, including solids, liquids, foams, and scum, in concentrations that cause nuisance or adversely affect beneficial uses." Basin Plan has a narrative objective for settleable material, "Waters shall not contain substances in concentrations that result in the deposition of material that cause nuisance or adversely affect beneficial uses."
Water Quality Objective/Criterion Reference(s):	San Francisco Bay Basin (Region 2) Water Quality Control Plan (Basin Plan)
Evaluation Guideline:	If the URTA Parameter 3 (Transportable, Persistent, Buoyant Litter) is in the marginal urban or poor condition category (scores 0-10), then WILD is not supported. The URTA defines marginal urban or poor condition for this parameter as follows. this level of trash is a "medium prevalence (76-200 pieces)" or "large amount (>200 pieces) of transportable, persistent, buoyant litter such as: hard or soft plastics, styrofoam, balloons, cigarette butts". These types of items are all detrimental to aquatic life.
Evaluation Guideline Reference(s):	Memo: Development of Urban Rapid Trash Assessment Protocol. March 13, 2006
Spatial Representation:	URTA data were collected for this waterbody in six locations in 2004 through 2007.
Temporal Representation:	URTA data were collected for this waterbody on seven dates in 2004 through 2007.
Environmental Conditions:	
QAPP Information:	Data were collected by trained staff in accordance with URTA methodology developed by SCVURPPP and are deemed reliable and of sufficient quality on which to base listing determinations.

Strawberry Creek (Alameda County) Trash

Decision ID: 7670

Pollutant: Trash

Status: Decision in Progress

Weight of Evidence: This pollutant is being considered for placement on the section 303(d) list under section 3.11 of the Listing Policy. Under section 3.11, listing may be proposed based on the situation-specific weight of evidence.

Two lines of evidence is available in the administrative record to assess this pollutant. Both lines of evidence rely on data from field visits/trash surveys conducted according to the Rapid Trash Assessment (RTA) methodology.

Based on the readily available trash assessment data for this waterbody, the weight of evidence indicates that there is sufficient justification available in favor of placing this water segment-pollutant combination to the section 303(d) list in the Water Quality Limited Segments category.

This conclusion is based on the staff findings that:

1. Data have been evaluated that supports this decision.

2. The Rapid Trash Assessment methodology results showed that this waterbody had "level of trash" parameter scores in the poor category (indicating impairment of non-contact water recreational beneficial uses) at one location on three different dates. This waterbody also had "threat to aquatic life" parameter scores in the poor category (indicating threat to Wildlife Habitat beneficial uses) at one location on three different dates.

3. This waterbody is considered impaired by trash because there were exceedances of the evaluation guidelines (poor condition category for the trash assessment metrics) in more than one location or on more than one date.

4. The data used satisfy the data quality requirements of section 6.1.4 of the Policy.

5. The data used satisfy the data quantity requirements of section 6.1 of the Policy.

Lines of Evidence:

LOE ID:	5411
Pollutant:	Trash
Subgroup:	Pollutant-Nuisance
Beneficial Use:	Wildlife Habitat
Matrix:	Not Specified
Fraction:	None
Number of Exceedances:	3
Number of Samples:	3
Data Used to Assess Water	Data results were obtained through application the RTA methodology, developed

Quality:	by the Surface Water Ambient Monitoring Program (SWAMP). The RTA documents the total number and characteristics of pieces of trash per one hundred feet of stream or shoreline. The trash assessment protocol involves picking up and tallying all of the trash items found within the defined boundaries of a site. The tally results for "level of trash" (relating to REC2) and "threat to aquatic life" (relating to WILD) assessment parameters were considered for the listing determination. These results are available for field visits/trash surveys conducted in March, August, and December 2004 according to the Rapid Trash Assessment (RTA) methodology. This waterbody had "threat to aquatic life" parameter scores in the poor category (indicating threat to Wildlife Habitat beneficial uses) at one location on three different dates.
Data Reference(s):	A Rapid Trash Assessment Method Applied to Waters of the San Francisco Bay Region:Trash Measurement in Streams Rapid Trash Assessment (RTA) data collected by the SF Bay Region Surface Water Ambient Monitoring Program from 2002-2005 and method description
Water Quality Objective/Criterion:	Basin Plan prohibits discharge of "Rubbish, refuse, bark, sawdust, or other solid wastes into surface waters or at any place where they would contact or where they would be eventually transported to surface waters, including flood plain areas." Basin Plan has a narrative objective for floating material, "Waters shall not contain floating material, including solids, liquids, foams, and scum, in concentrations that cause nuisance or adversely affect beneficial uses." Basin Plan has a narrative objective for settleable material, "Waters shall not contain substances in concentrations that result in the deposition of material that cause nuisance or adversely affect beneficial uses."
Water Quality Objective/Criterion Reference(s):	San Francisco Bay Basin (Region 2) Water Quality Control Plan (Basin Plan)
Evaluation Guideline:	If the RTA Parameter 3 (Threat to Aquatic Life) is in the poor condition category (scores 0-5), then WILD is not supported. This level of trash is a "large amount (>50 pieces) of transportable, persistent, buoyant litter" that is detrimental to aquatic life. The RTA defines poor condition for this parameter as follows, "large amount (>50 pieces) of transportable, persistent, buoyant litter such as: hard or soft plastics, balloons, Styrofoam, cigarette butts; toxic items such as batteries, lighters, or spray cans; large clumps of yard waste or dumped leaf litter; or large amount (>50 pieces) of settleable glass or metal."
Evaluation Guideline Reference(s):	A Rapid Trash Assessment Method Applied to Waters of the San Francisco Bay Region:Trash Measurement in Streams
Spatial Representation:	RTA data were collected for this waterbody in one location in 2004.
Temporal Representation:	RTA data were collected for this waterbody in March, August, and December in 2004.
Environmental Conditions:	
QAPP Information:	For RTA trash assessment data to be considered, the data must have been collected by field operators that have received a 2-hour training in the Rapid Trash Assessment methodology.

LOE ID:	5412
Pollutant:	Trash
Subgroup:	Pollutant-Nuisance
Beneficial Use:	Non-Contact Recreation

Matrix:	Not Specified
Fraction:	None
Number of Exceedances:	2
Number of Samples:	3
Data Used to Assess Water Quality:	Data results were obtained through application the RTA methodology, developed by the Surface Water Ambient Monitoring Program (SWAMP). The RTA documents the total number and characteristics of pieces of trash per one hundred feet of stream or shoreline. The trash assessment protocol involves picking up and tallying all of the trash items found within the defined boundaries of a site. The tally results for "level of trash" (relating to REC2) and "threat to aquatic life" (relating to WILD) assessment parameters were considered for the listing determination. These results are available for field visits/trash surveys conducted in March, August, and December 2004 according to the Rapid Trash Assessment (RTA) methodology. This waterbody had "level of trash" parameter scores in the poor category (indicating impairment of non-contact water recreational beneficial uses) at one location on three different dates.
Data Reference(s):	A Rapid Trash Assessment Method Applied to Waters of the San Francisco Bay Region:Trash Measurement in Streams Rapid Trash Assessment (RTA) data collected by the SF Bay Region Surface Water Ambient Monitoring Program from 2002-2005 and method description
Water Quality Objective/Criterion:	Basin Plan prohibits discharge of "Rubbish, refuse, bark, sawdust, or other solid wastes into surface waters or at any place where they would contact or where they would be eventually transported to surface waters, including flood plain areas." Basin Plan has a narrative objective for floating material, "Waters shall not contain floating material, including solids, liquids, foams, and scum, in concentrations that cause nuisance or adversely affect beneficial uses." Basin Plan has a narrative objective for settleable material, "Waters shall not contain substances in concentrations that result in the deposition of material that cause nuisance or adversely affect beneficial uses."
Water Quality Objective/Criterion Reference(s):	San Francisco Bay Basin (Region 2) Water Quality Control Plan (Basin Plan)
Evaluation Guideline:	If the Rapid Trash Assessment (RTA) Parameter 1 (Level of Trash) is in the "poor condition category" (scores 0-5), REC2 is not supported. This level of trash "distracts the eye on first glance," making the site unsuitable for recreation. The RTA defines poor condition for this parameter as follows, "trash distracts the eye on first glance. Stream, bank surfaces, and immediate riparian zone contain substantial levels of litter and debris (>100 pieces). Evidence of site being used frequently by people: many cans, bottles, and food wrappers, blankets, clothing."
Evaluation Guideline Reference(s):	A Rapid Trash Assessment Method Applied to Waters of the San Francisco Bay Region:Trash Measurement in Streams
Spatial Representation:	RTA data were collected for this waterbody in one location in 2004.
Temporal Representation:	RTA data were collected for this waterbody in March, August, and December in 2004.
Environmental Conditions:	
QAPP Information:	For RTA trash assessment data to be considered, the data must have been collected by field operators that have received a 2-hour training in the Rapid Trash Assessment methodology.

Suisun Creek

Low Dissolved Oxygen | Temperature

Decision ID: 7580

Pollutant: Low Dissolved Oxygen

Status: Decision in Progress

Weight of Evidence: This pollutant is being considered for listing under sections 3.2 of the Listing Policy. Under section 3.2 a single line of evidence is necessary to assess listing status.

One line of evidence is available in the administrative record to assess this pollutant. A sufficient number of samples exceeds the water quality objective.

Based on the readily available data for this waterbody, the weight of evidence indicates that there is sufficient justification available in favor of adding this water segment-pollutant combination to the section 303(d) list in the Water Quality Limited Segments category.

This conclusion is based on the staff findings that:

1. The data concerning current conditions and supporting the listing decision were collected as part of the SWAMP and satisfy the data quality requirements of section 6.1.4 of the Policy.

2. The data used satisfy the data quantity requirements of section 6.1.5 of the Policy.

3. DO measurements at 5 of all 20 continuous deployments were below the Basin Plan objective for waters designated as cold water habitat and this exceeds the allowable frequency listed in Table 3.2 of the Listing Policy.

4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Lines of Evidence:

LOE ID:	5179
Pollutant:	Low Dissolved Oxygen
Subgroup:	Pollutant-Water
Beneficial Use:	Cold Freshwater Habitat
Aquatic Life Use:	Wildlife Habitat
Matrix:	Water
Fraction:	None
Number of Exceedances:	5
Number of Samples:	20
Data Used to Assess Water Quality:	Water quality assessment was conducted at the Suisun Creek watershed as part of SWAMP assessment. Continuous field monitoring of temperature, dissolved oxygen, pH and specific conductance was conducted to determine temporal variability in basic water quality at six locations. The detected concentrations of

	dissolved oxygen ranged from 3.9 to 14.08 mg/L and varied with season and location. Minimum dissolved oxygen concentrations in spring fell below 9 mg/L at all six monitoring sites. In 5 out of 20 deployments, minimum dissolved oxygen levels fell below the objective of 7 mg/L. Minimum values of DO ranging from 3.9 to 6.62 mg/L occurred during summer dry season of 2002. The median percent saturation also fell below 80 percent in the dry season measurements.
Data Reference(s):	Water Quality Monitoring and Bioassessment in Nine San Francisco Bay Region Watersheds: Walker Creek, Lagunitas Creek, San Leandro Creek, Wildcat Creek/San Pablo Creek, Suisun Creek, Arroyo Las Positas, Pescadero Creek/Butano Creek, San Gregorio Creek, and Stevens Creek/Permanente Creek. Oakland, CA: Surface Water Ambient Monitoring Program, San Francisco Bay Regional Water Quality Control Board
Water Quality Objective/Criterion:	The numeric water quality objective for dissolved oxygen is 7.0 mg/L minimum for waters designated as cold water habitat. The median dissolved oxygen concentration for any three consecutive months shall not be less than 80 percent of the dissolved oxygen content at saturation.
Water Quality Objective/Criterion Reference(s):	San Francisco Bay Basin (Region 2) Water Quality Control Plan (Basin Plan)
Evaluation Guideline:	
Evaluation Guideline Reference(s):	
Spatial Representation:	Dissolved oxygen was measured at six sites. Four of these sites were located on the mainstem of Suisun Creek, with the two remaining sites located on Wooden Valley Creek the major tributary. The lowest dissolved oxygen levels were measured at the confluence of Wooden Valley Creek and Suisun Creek. Low dissolved oxygen levels also occurred in the lower reach of Suisun Creek during the summer dry season.
Temporal Representation:	In 2002 the SWAMP Program performed continuous monitoring of dissolved oxygen at 15 minute intervals for periods of 1-2 weeks in each of four different seasons: winter (2 sites), spring (7 sites), summer dry season (6 sites), and late summer (5 sites).
Environmental Conditions:	Suisun Creek supports steelhead trout and is considered an anchor watershed and essential creek for steelhead population.
QAPP Information:	All samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB 2002).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. December 2002 (1st version)

Decision ID:	7581
Pollutant:	Temperature, water
Status:	Decision in Progress
Weight of Evidence:	This pollutant is being considered for listing under sections 3.2 of the Listing Policy. Under section 3.2 a single line of evidence is necessary to assess listing status.

One line of evidence is available in the administrative record to assess this pollutant. A sufficient number of samples exceed the water quality objective.

Based on the readily available data for this waterbody, the weight of evidence indicates that there is sufficient justification available in favor of adding this water segment-pollutant combination to the section 303(d) list in the Water Quality Limited Segments category.

This conclusion is based on the staff findings that:

1. The data concerning current conditions and supporting the listing decision were collected as part of the SWAMP and satisfy the data quality requirements of section 6.1.4 of the Policy.

2. The data used satisfy the data quantity requirements of section 6.1.5 of the Policy.

3. Temperature measurements at 6 out of 15 continuous deployments exceeded the 17°C evaluation guideline used to interpret the water quality objective for waters designated as cold water habitat and this exceeds the allowable frequency listed in Table 3.2 of the Listing Policy.

4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Lines of Evidence:

LOE ID:	5180
Pollutant:	Temperature, water
Subgroup:	Pollutant-Water
Beneficial Use:	Cold Freshwater Habitat
Aquatic Life Use:	Wildlife Habitat
Matrix:	Water
Fraction:	None
Number of Exceedances:	6
Number of Samples:	15
Data Used to Assess Water Quality:	Comprehensive water quality assessment was conducted at the Suisun Creek watershed as part of SWAMP assessment. Continuous field monitoring at 15 minute increments of temperature, dissolved oxygen, pH and specific conductance was conducted to determine temporal variability in basic water quality at seven locations. The measured temperatures ranged from 5.73°C to 29.32 °C and varied with season and location. The 14.8 °C criterion for coho salmon was exceeded in 10 out of 15 continuous temperature deployments. Suisun Creek supports steelhead trout and the 17°C criterion for steelhead was exceeded in 6 out of 15 deployments. High water temperatures exceeding 24 °C, that is a maximum short exposure temperature for survival of salmonids (EPA 1977) were also measured at two monitoring locations at the mainstem of Suisun Creek and at two locations at the Wooden Valley Creek, the main tributary. At the monitoring site in the lower reach of the Suisun Creek high temperature persisted for up to 11 hours while at the confluence of Wooden Valley Creek with Suisun Creek the high temperatures lasted for over 12 hours.

Data Reference(s):	Water Quality Monitoring and Bioassessment in Nine San Francisco Bay Region Watersheds: Walker Creek, Lagunitas Creek, San Leandro Creek, Wildcat Creek/San Pablo Creek, Suisun Creek, Arroyo Las Positas, Pescadero Creek/Butano Creek, San Gregorio Creek, and Stevens Creek/Permanente Creek. Oakland, CA: Surface Water Ambient Monitoring Program, San Francisco Bay Regional Water Quality Control Board
Water Quality Objective/Criterion:	Temperature objectives for enclosed bays and estuaries are specified in the "Water Quality Control Plan for Control of Temperature in the Coastal and Interstate Waters and Enclosed Bays of California" including any revisions to the plan. In addition, the following temperature objectives apply to surface waters: The natural receiving water temperature of intrastate waters shall not be altered unless it can be demonstrated to the satisfaction of the Regional Water Board that such alteration in temperature does not adversely affect beneficial uses. The temperature of any cold or warm freshwater habitat shall not be increased by more than 5°F (2.8^{o} C) above natural receiving water temperature.
Water Quality Objective/Criterion Reference(s):	San Francisco Bay Basin (Region 2) Water Quality Control Plan (Basin Plan)
Evaluation Guideline:	Sullivan et al. (2000) reviewed a wide range of studies incorporating information from laboratory-based research, field observations, and risk assessment approaches and developed criteria for assessing temperature risk to aquatic life. The 7-day mean temperature (maximum value of the 7-day moving average of the daily mean temperature) of 14.8°C was established as the upper threshold criterion for coho salmon and 17.0°C for steelhead trout. The risk assessment approach used by Sullivan et al. (2000) suggests that temperatures exceeding the above thresholds will cause 10% reduction in average growth compared to optimal conditions.
Evaluation Guideline Reference(s):	An Analysis of the Effects of Temperature on Salmonids of the Pacific Northwest with Implications for Selecting Temperature Criteria
Spatial Representation:	Temperature was measured at seven sites. Four of these sites were located on the mainstem of Suisun Creek, with the three remaining sites located on Wooden Valley Creek the major tributary. The highest temperatures were measured at the confluence of Wooden Valley Creek and Suisun Creek. High temperatures also occurred in the lower reach of Suisun Creek during the summer dry season.
Temporal Representation:	In 2002 the SWAMP Program performed continuous monitoring of temperature at 15 minute intervals for periods of 1-2 weeks in each of four different seasons: winter (2 sites), spring (7 sites), summer dry season (6 sites), and late summer (5 sites).
Environmental Conditions:	Suisun Creek supports steelhead trout and is considered an anchor watershed and essential creek for steelhead population.
QAPP Information:	All samples were collected and analyzed using procedures comparable with the SWAMP Quality Assurance Management Plan (SWRCB 2002).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. December 2002 (1st version)

Proposed Delistings

Water Body	Pollutant(s)
Sacramento San Joaquin Delta	Nickel
San Pablo Bay	Nickel
Suisun Bay	Nickel

Sacramento San Joaquin Delta — Nickel

DECISION ID **6132**

Pollutant:	**Nickel**
Final Listing Decision:	**Delist from 303(d) list (TMDL required list)**
Last Listing Cycle's Final Listing Decision:	List on 303(d) list (TMDL required list)(2006)
Revision Status	Revised
Sources:	Source Unknown
Reason for Delisting:	State Determines water quality standard is being met
Impairment from Pollutant or Pollution:	Pollutant
Weight of Evidence:	None of the 59 samples from the Sacramento San Joaquin Delta exceeded the water quality objective from the Basin Plan.
RWQCB Board Decision / Staff Recommendation:	After review of the available data and information, Water Board staff concludes that the water body-pollutant combination should be removed from the section 303(d) list because applicable water quality standards have not been exceeded.

Lines of Evidence (LOEs) for Decision ID 6132

LOE ID:	5188
Pollutant:	Nickel
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Dissolved
Beneficial Use:	Estuarine Habitat
Aquatic Life Use:	Estuarine Habitat
Number of Samples:	59
Number of Exceedances:	0
Data and Information Type:	Highest quality fixed-station P/C (conventional plus toxicants)
Data Used to Asses Water Quality:	Data are dissolved nickel measurements of grab samples collected through two monitoring programs. The first is the ongoing Regional Monitoring Program (RMP) in San Francisco Bay. The second set of data was from a special discharger-funded study to develop copper and nickel site-specific objectives (SSOs) that began in 2001. These data were taken throughout San Francisco Bay, but the bulk of the data are from the deepwater portion of the Bay. None of the 59 measurements exceeded the criterion.
Data Reference:	Spreadsheet of nickel data for San Francisco Bay from Regional Monitoring Program and Special copper/nickel study (1993-2005)
Water Quality	The Regional Water Board Basin Plan contains water quality objectives of 8.2

Objective/Criterion:	microgram/Liter as a 4-day average and, 74 microgram/Liter as a 1-hour average. These objectives were approved by USEPA in January 2005 and are contained in the Regional Board Basin Plan in Table 3-3.
Objective/Criterion Reference:	San Francisco Bay Basin (Region 2) Water Quality Control Plan (Basin Plan)
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	2 sampling locations for Sacramento San Joaquin Delta.
Temporal Representation:	Samples were taken from 1993 to 2005 in all seasons.
Environmental Conditions:	
QAPP Information:	Regional Monitoring Program QA/QC program is documented at http://sfei.org/rmp/rmp_data_index.html

San Pablo Bay — Nickel

DECISION ID	**6142**

Pollutant:	**Nickel**
Final Listing Decision:	**Delist from 303(d) list (TMDL required list)**
Last Listing Cycle's Final Listing Decision:	List on 303(d) list (TMDL required list)(2006)
Revision Status	Original
Sources:	Source Unknown
Reason for Delisting:	State determines water quality standard is being met
Impairment from Pollutant or Pollution:	Pollutant
Weight of Evidence:	None of the 107 samples from San Pablo Bay exceeded the water quality objective.
RWQCB Board Decision / Staff Recommendation:	After review of the available data and information, Water Board staff concludes that the water body-pollutant combination should be removed from the section 303(d) list because applicable water quality standards have not been exceeded.

Lines of Evidence (LOEs) for Decision ID 6142

LOE ID:	5193
Pollutant:	Nickel
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Dissolved
Beneficial Use:	Estuarine Habitat
Aquatic Life Use:	Estuarine Habitat
Number of Samples:	107
Number of Exceedances:	0
Data and Information Type:	Highest quality fixed-station P/C (conventional plus toxicants)
Data Used to Asses Water Quality:	Data are dissolved nickel measurements of grab samples collected through two monitoring programs. The first is the ongoing Regional Monitoring Program (RMP) in San Francisco Bay. The second set of data was from a special discharger-funded study to develop copper and nickel site-specific objectives (SSOs) that began in 2001. These data were taken throughout San Francisco Bay, but the bulk of the data are from the deepwater portion of the Bay. There were 107 individual dissolved nickel measurements from water samples taken in San Pablo Bay, and none of these measurements exceeded the objective.
Data Reference:	Spreadsheet of nickel data for San Franicsco Bay from Regional Monitoring Program and Special copper/nickel study (1993-2005)

Water Quality Objective/Criterion:	The Regional Water Board Basin Plan contains water quality objectives of 8.2 microgram/Liter as a 4-day average and, 74 microgram/Liter as a 1-hour average. These objectives were approved by USEPA in January 2005 and are contained in the Regional Board Basin Plan in Table 3-3.
Objective/Criterion Reference:	San Francisco Bay Basin (Region 2) Water Quality Control Plan (Basin Plan)
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Twenty-two sampling locations in San Pablo Bay.
Temporal Representation:	Samples were taken from 1993 to 2005 in all seasons.
Environmental Conditions:	
QAPP Information:	Regional Monitoring Program QA/QC program is documented at http://sfei.org/rmp/rmp_data_index.html

Suisun Bay — Nickel

DECISION ID	6076

Pollutant:	**Nickel**
Final Listing Decision:	**Delist from 303(d) list (TMDL required list)**
Last Listing Cycle's Final Listing Decision:	List on 303(d) list (TMDL required list)(2006)
Revision Status	Revised
Sources:	Source Unknown
Reason for Delisting:	State Determines water quality standard is being met
Impairment from Pollutant or Pollution:	Pollutant
Weight of Evidence:	None of the 96 samples from Suisun Bay exceeded the objective.
RWQCB Board Decision / Staff Recommendation:	After review of the available data and information, Water Board staff concludes that the water body-pollutant combination should be removed from the section 303(d) list because applicable water quality standards have not been exceeded.

Lines of Evidence (LOEs) for Decision ID 6076

LOE ID:	5195
Pollutant:	Nickel
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Dissolved
Beneficial Use:	Estuarine Habitat
Aquatic Life Use:	Estuarine Habitat
Number of Samples:	96
Number of Exceedances:	0
Data and Information Type:	Highest quality fixed-station P/C (conventional plus toxicants)
Data Used to Asses Water Quality:	Data are dissolved nickel measurements of grab samples collected through two monitoring programs. The first is the ongoing Regional Monitoring Program (RMP) in San Francisco Bay. The second set of data was from a special discharger-funded study to develop copper and nickel site-specific objectives (SSOs) that began in 2001. These data were taken throughout San Francisco Bay, but the bulk of the data are from the deepwater “spine” of the Bay.
Data Reference:	Spreadsheet of nickel data for San Franicsco Bay from Regional Monitoring Program and Special copper/nickel study (1993-2005)
Water Quality Objective/Criterion:	The Regional Water Board Basin Plan contains water quality objectives of 8.2 microgram/Liter as a 4-day average and, 74 microgram/Liter as a 1-hour average. These objectives were approved by USEPA in January 2005 and are contained in the Regional Board Basin Plan in Table 3-3.
Objective/Criterion	San Francisco Bay Basin (Region 2) Water Quality Control Plan (Basin Plan)

Reference:

Evaluation Guideline:
Guideline Reference:

Spatial Representation:	21 sampling locations for Suisun Bay.
Temporal Representation:	Samples were taken from 1993 to 2005 in all seasons.
Environmental Conditions:	
QAPP Information:	Regional Monitoring Program QA/QC program is documented at http://sfei.org/rmp/rmp_data_index.html